Appendix B

E-UTRA Band 5

CONTENT

Page

1 Effective (Isotropic) Radiated Power Output Data

Effective Radiated Power of Transmitter (ERP) for LTE BAND 5

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM1	1.4M	LCH	RB1#0	23.73	21.33	38.45	PASS
				RB1#2	23.42	21.02	38.45	PASS
				RB1#5	23.72	21.32	38.45	PASS
				RB3#0	23.50	21.10	38.45	PASS
				RB3#2	23.56	21.16	38.45	PASS
				RB3#3	23.43	21.03	38.45	PASS
				RB6#0	22.14	19.74	38.45	PASS
			MCH	RB1#0	23.69	21.29	38.45	PASS
				RB1#2	23.32	20.92	38.45	PASS
				RB1#5	23.71	21.31	38.45	PASS
				RB3#0	23.54	21.14	38.45	PASS
				RB3#2	23.59	21.19	38.45	PASS
				RB3#3	23.46	21.06	38.45	PASS
				RB6#0	22.12	19.72	38.45	PASS
			HCH	RB1#0	23.73	21.33	38.45	PASS
				RB1#2	23.25	20.85	38.45	PASS
				RB1#5	23.84	21.44	38.45	PASS
				RB3#0	23.59	21.19	38.45	PASS
				RB3#2	23.50	21.1	38.45	PASS
				RB3#3	23.5	21.1	38.45	PASS
				RB6#0	22.12	19.72	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM2	1.4M	LCH	RB1#0	22.48	20.08	38.45	PASS
				RB1#2	22.34	19.94	38.45	PASS
				RB1#5	22.49	20.09	38.45	PASS
				RB3#0	22.13	19.73	38.45	PASS
				RB3#2	22.06	19.66	38.45	PASS
				RB3#3	22.20	19.8	38.45	PASS
				RB6#0	21.10	18.7	38.45	PASS
			MCH	RB1#0	22.47	20.07	38.45	PASS
				RB1#2	22.26	19.86	38.45	PASS
				RB1#5	22.47	20.07	38.45	PASS
				RB3#0	22.04	19.64	38.45	PASS
				RB3#2	22.15	19.75	38.45	PASS
				RB3#3	22.18	19.78	38.45	PASS
				RB6#0	21.15	18.75	38.45	PASS
			HCH	RB1#0	22.48	20.08	38.45	PASS
				RB1#2	22.22	19.82	38.45	PASS
				RB1#5	22.51	20.11	38.45	PASS
				RB3#0	22.12	19.72	38.45	PASS
				RB3#2	22.14	19.74	38.45	PASS
				RB3#3	22.27	19.87	38.45	PASS
				RB6#0	21.17	18.77	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM3	1.4M	LCH	RB1#0	22.24	19.84	38.45	PASS
				RB1#2	21.77	19.37	38.45	PASS
				RB1#5	22.19	19.79	38.45	PASS
				RB3#0	22.07	19.67	38.45	PASS
				RB3#2	21.98	19.58	38.45	PASS
				RB3#3	22.16	19.76	38.45	PASS
				RB6#0	21.07	18.67	38.45	PASS
			MCH	RB1#0	22.20	19.8	38.45	PASS
				RB1#2	21.83	19.43	38.45	PASS
				RB1#5	22.11	19.71	38.45	PASS
				RB3#0	22.08	19.68	38.45	PASS
				RB3#2	21.99	19.59	38.45	PASS
				RB3#3	22.08	19.68	38.45	PASS
				RB6#0	21.04	18.64	38.45	PASS
			HCH	RB1#0	22.26	19.86	38.45	PASS
				RB1#2	21.73	19.33	38.45	PASS
				RB1#5	22.29	19.89	38.45	PASS
				RB3#0	22.09	19.69	38.45	PASS
				RB3#2	22.03	19.63	38.45	PASS
				RB3#3	22.29	19.89	38.45	PASS
				RB6#0	21.15	18.75	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM1	3M	LCH	RB1#0	23.70	21.30	38.45	PASS
				RB1#7	23.34	20.94	38.45	PASS
				RB1#14	23.73	21.33	38.45	PASS
				RB8#0	22.16	19.76	38.45	PASS
				RB8#4	22.07	19.67	38.45	PASS
				RB8#7	22.16	19.76	38.45	PASS
				RB15#0	22.16	19.76	38.45	PASS
			MCH	RB1#0	23.66	21.26	38.45	PASS
				RB1#7	23.33	20.93	38.45	PASS
				RB1#14	23.68	21.28	38.45	PASS
				RB8#0	22.12	19.72	38.45	PASS
				RB8#4	22.18	19.78	38.45	PASS
				RB8#7	22.11	19.71	38.45	PASS
				RB15#0	22.16	19.76	38.45	PASS
			HCH	RB1#0	23.62	21.22	38.45	PASS
				RB1#7	22.97	20.57	38.45	PASS
				RB1#14	23.75	21.35	38.45	PASS
				RB8#0	22.04	19.64	38.45	PASS
				RB8#4	22.08	19.68	38.45	PASS
				RB8#7	22.15	19.75	38.45	PASS
				RB15#0	22.17	19.77	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM2	3M	LCH	RB1#0	22.36	19.96	38.45	PASS
				RB1#7	21.95	19.55	38.45	PASS
				RB1#14	22.46	20.06	38.45	PASS
				RB8#0	21.15	18.75	38.45	PASS
				RB8#4	21.08	18.68	38.45	PASS
				RB8#7	21.04	18.64	38.45	PASS
				RB15#0	21.11	18.71	38.45	PASS
			MCH	RB1#0	22.44	20.04	38.45	PASS
				RB1#7	21.83	19.43	38.45	PASS
				RB1#14	22.44	20.04	38.45	PASS
				RB8#0	21.08	18.68	38.45	PASS
				RB8#4	21.08	18.68	38.45	PASS
				RB8#7	21.13	18.73	38.45	PASS
				RB15#0	21.11	18.71	38.45	PASS
			HCH	RB1#0	22.46	20.06	38.45	PASS
				RB1#7	22.05	19.65	38.45	PASS
				RB1#14	22.41	20.01	38.45	PASS
				RB8#0	21.17	18.77	38.45	PASS
				RB8#4	21.13	18.73	38.45	PASS
				RB8#7	21.15	18.75	38.45	PASS
				RB15#0	21.08	18.68	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM3	3M	LCH	RB1#0	22.30	19.90	38.45	PASS
				RB1#7	22.04	19.64	38.45	PASS
				RB1#14	22.24	19.84	38.45	PASS
				RB8#0	21.10	18.70	38.45	PASS
				RB8#4	21.07	18.67	38.45	PASS
				RB8#7	21.11	18.71	38.45	PASS
				RB15#0	21.09	18.69	38.45	PASS
			MCH	RB1#0	22.30	19.90	38.45	PASS
				RB1#7	22.10	19.70	38.45	PASS
				RB1#14	22.29	19.89	38.45	PASS
				RB8#0	21.09	18.69	38.45	PASS
				RB8#4	21.14	18.74	38.45	PASS
				RB8#7	21.16	18.76	38.45	PASS
				RB15#0	21.10	18.70	38.45	PASS
			HCH	RB1#0	22.30	19.90	38.45	PASS
				RB1#7	22.04	19.64	38.45	PASS
				RB1#14	22.32	19.92	38.45	PASS
				RB8#0	21.16	18.76	38.45	PASS
				RB8#4	21.16	18.76	38.45	PASS
				RB8#7	21.22	18.82	38.45	PASS
				RB15#0	21.12	18.72	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM1	5M	LCH	RB1#0	23.70	21.30	38.45	PASS
				RB1#13	23.69	21.29	38.45	PASS
				RB1#24	23.72	21.32	38.45	PASS
				RB12#0	22.21	19.81	38.45	PASS
				RB12#6	22.17	19.77	38.45	PASS
				RB12#13	22.24	19.84	38.45	PASS
				RB25#0	22.16	19.76	38.45	PASS
			MCH	RB1#0	23.67	21.27	38.45	PASS
				RB1#13	23.73	21.33	38.45	PASS
				RB1#24	23.69	21.29	38.45	PASS
				RB12#0	22.22	19.82	38.45	PASS
				RB12#6	22.15	19.75	38.45	PASS
				RB12#13	22.24	19.84	38.45	PASS
				RB25#0	22.17	19.77	38.45	PASS
			HCH	RB1#0	23.76	21.36	38.45	PASS
				RB1#13	23.76	21.36	38.45	PASS
				RB1#24	23.82	21.42	38.45	PASS
				RB12#0	22.23	19.83	38.45	PASS
				RB12#6	22.15	19.75	38.45	PASS
				RB12#13	22.21	19.81	38.45	PASS
				RB25#0	22.21	19.81	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM2	5M	LCH	RB1#0	22.41	20.01	38.45	PASS
				RB1#13	22.43	20.03	38.45	PASS
				RB1#24	22.44	20.04	38.45	PASS
				RB12#0	21.20	18.80	38.45	PASS
				RB12#6	21.08	18.68	38.45	PASS
				RB12#13	21.20	18.80	38.45	PASS
				RB25#0	21.14	18.74	38.45	PASS
			MCH	RB1#0	22.38	19.98	38.45	PASS
				RB1#13	22.45	20.05	38.45	PASS
				RB1#24	22.39	19.99	38.45	PASS
				RB12#0	21.16	18.76	38.45	PASS
				RB12#6	21.06	18.66	38.45	PASS
				RB12#13	21.18	18.78	38.45	PASS
				RB25#0	21.11	18.71	38.45	PASS
			HCH	RB1#0	22.43	20.03	38.45	PASS
				RB1#13	22.43	20.03	38.45	PASS
				RB1#24	22.48	20.08	38.45	PASS
				RB12#0	21.18	18.78	38.45	PASS
				RB12#6	21.12	18.72	38.45	PASS
				RB12#13	21.15	18.75	38.45	PASS
				RB25#0	21.10	18.70	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM3	5M	LCH	RB1#0	22.27	19.87	38.45	PASS
				RB1#13	22.20	19.8	38.45	PASS
				RB1#24	22.28	19.88	38.45	PASS
				RB12#0	21.19	18.79	38.45	PASS
				RB12#6	21.15	18.75	38.45	PASS
				RB12#13	21.17	18.77	38.45	PASS
				RB25#0	21.11	18.71	38.45	PASS
			MCH	RB1#0	22.18	19.78	38.45	PASS
				RB1#13	22.25	19.85	38.45	PASS
				RB1#24	22.19	19.79	38.45	PASS
				RB12#0	21.18	18.78	38.45	PASS
				RB12#6	21.10	18.7	38.45	PASS
				RB12#13	21.19	18.79	38.45	PASS
				RB25#0	21.12	18.72	38.45	PASS
			HCH	RB1#0	22.24	19.84	38.45	PASS
				RB1#13	22.22	19.82	38.45	PASS
				RB1#24	22.29	19.89	38.45	PASS
				RB12#0	21.20	18.8	38.45	PASS
				RB12#6	21.15	18.75	38.45	PASS
				RB12#13	21.20	18.8	38.45	PASS
				RB25#0	21.11	18.71	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM1	10M	LCH	RB1#0	23.78	21.38	38.45	PASS
				RB1#25	23.52	21.12	38.45	PASS
				RB1#49	23.73	21.33	38.45	PASS
				RB25#0	22.22	19.82	38.45	PASS
				RB25#13	22.20	19.80	38.45	PASS
				RB25#25	22.21	19.81	38.45	PASS
				RB50#0	22.20	19.80	38.45	PASS
			MCH	RB1#0	23.75	21.35	38.45	PASS
				RB1#25	23.42	21.02	38.45	PASS
				RB1#49	23.72	21.32	38.45	PASS
				RB25#0	22.20	19.80	38.45	PASS
				RB25#13	22.19	19.79	38.45	PASS
				RB25#25	22.17	19.77	38.45	PASS
				RB50#0	22.20	19.80	38.45	PASS
			HCH	RB1#0	23.63	21.23	38.45	PASS
				RB1#25	23.52	21.12	38.45	PASS
				RB1#49	23.73	21.33	38.45	PASS
				RB25#0	22.22	19.82	38.45	PASS
				RB25#13	22.19	19.79	38.45	PASS
				RB25#25	22.21	19.81	38.45	PASS
				RB50#0	22.21	19.81	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM2	10M	LCH	RB1#0	22.28	19.88	38.45	PASS
				RB1#25	22.34	19.94	38.45	PASS
				RB1#49	22.38	19.98	38.45	PASS
				RB25#0	21.15	18.75	38.45	PASS
				RB25#13	21.17	18.77	38.45	PASS
				RB25#25	21.19	18.79	38.45	PASS
				RB50#0	21.14	18.74	38.45	PASS
			MCH	RB1#0	22.39	19.99	38.45	PASS
				RB1#25	22.39	19.99	38.45	PASS
				RB1#49	22.40	20.00	38.45	PASS
				RB25#0	21.12	18.72	38.45	PASS
				RB25#13	21.13	18.73	38.45	PASS
				RB25#25	21.11	18.71	38.45	PASS
				RB50#0	21.12	18.72	38.45	PASS
			HCH	RB1#0	22.32	19.92	38.45	PASS
				RB1#25	22.17	19.77	38.45	PASS
				RB1#49	22.29	19.89	38.45	PASS
				RB25#0	21.16	18.76	38.45	PASS
				RB25#13	21.14	18.74	38.45	PASS
				RB25#25	21.14	18.74	38.45	PASS
				RB50#0	21.12	18.72	38.45	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND5	LTE/TM3	10M	LCH	RB1#0	22.13	19.73	38.45	PASS
				RB1#25	21.95	19.55	38.45	PASS
				RB1#49	22.22	19.82	38.45	PASS
				RB25#0	21.08	18.68	38.45	PASS
				RB25#13	21.10	18.7	38.45	PASS
				RB25#25	21.10	18.7	38.45	PASS
				RB50#0	21.05	18.65	38.45	PASS
			MCH	RB1#0	22.12	19.72	38.45	PASS
				RB1#25	22.05	19.65	38.45	PASS
				RB1#49	22.14	19.74	38.45	PASS
				RB25#0	21.06	18.66	38.45	PASS
				RB25#13	21.06	18.66	38.45	PASS
				RB25#25	21.05	18.65	38.45	PASS
				RB50#0	21.03	18.63	38.45	PASS
			HCH	RB1#0	22.10	19.7	38.45	PASS
				RB1#25	22.09	19.69	38.45	PASS
				RB1#49	22.15	19.75	38.45	PASS
				RB25#0	21.13	18.73	38.45	PASS
				RB25#13	21.06	18.66	38.45	PASS
				RB25#25	21.10	18.7	38.45	PASS
				RB50#0	21.14	18.74	38.45	PASS

Note:
a: For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBd]

b: SGP=Signal Generator Level
c: RBW > emission bandwidth, VBW > 3 x RBW.
Detector: RMS

2 Peak-to-Average Ratio

Part Ⅰ - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
Band 5	TM1/10M	LCH	5.42	13	PASS
		MCH	5.16	13	PASS
		HCH	5.28	13	PASS
	TM2/10M	LCH	6.09	13	PASS
		MCH	6.12	13	PASS
		HCH	6.06	13	PASS
	TM3/10M	LCH	6.23	13	PASS
		MCH	6.06	13	PASS
		HCH	6.23	13	PASS

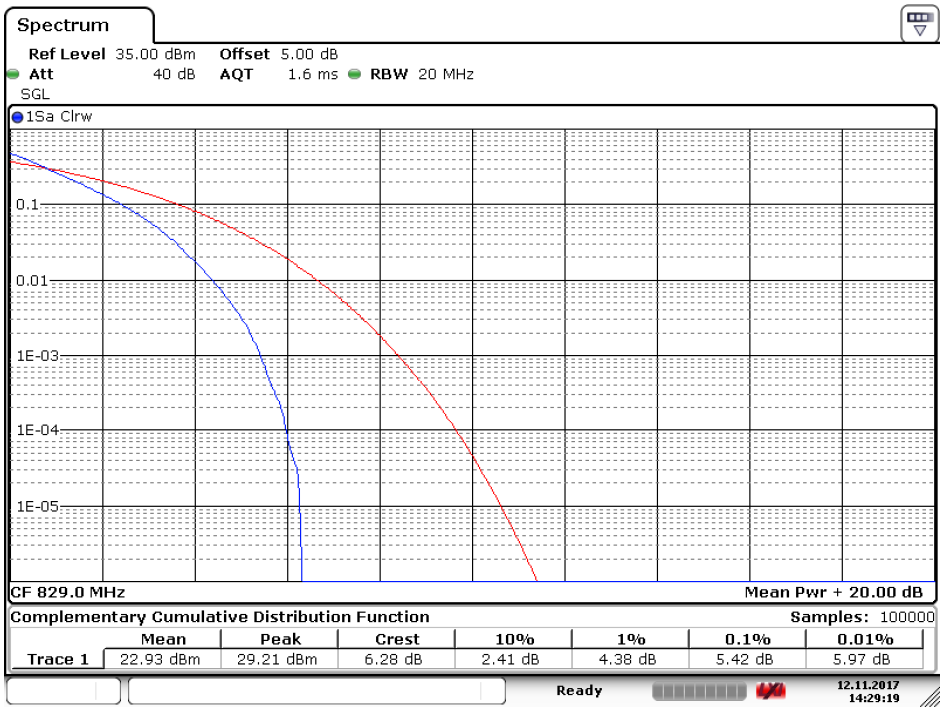
Part Ⅱ - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band5

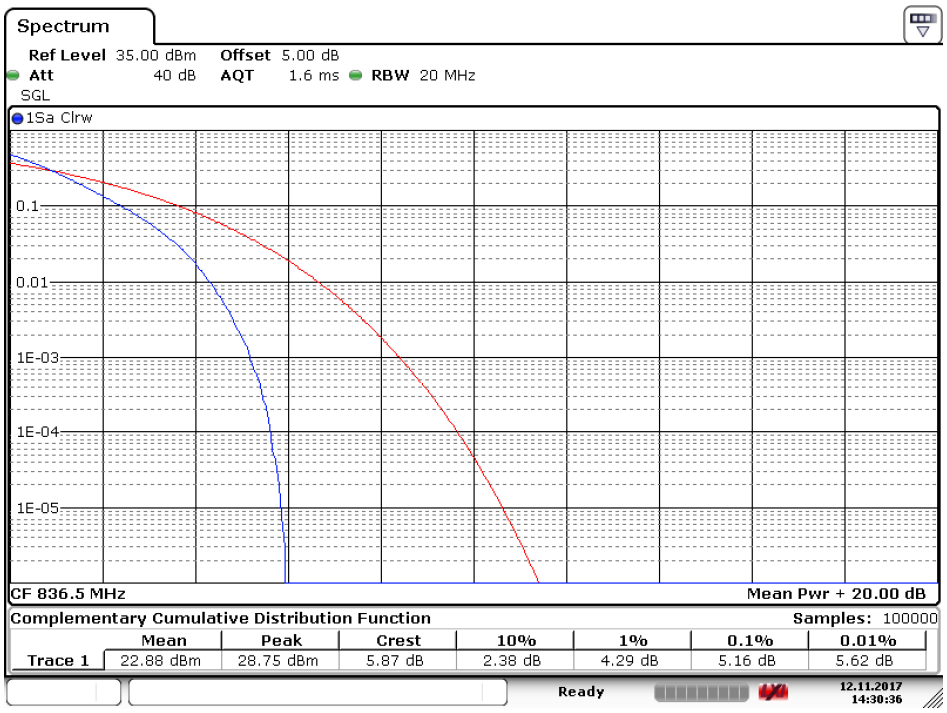
2.1.1.1 Test Mode = LTE/TM1.Bandwidth=10MHz

2.1.1.1.1 Test Channel = LCH



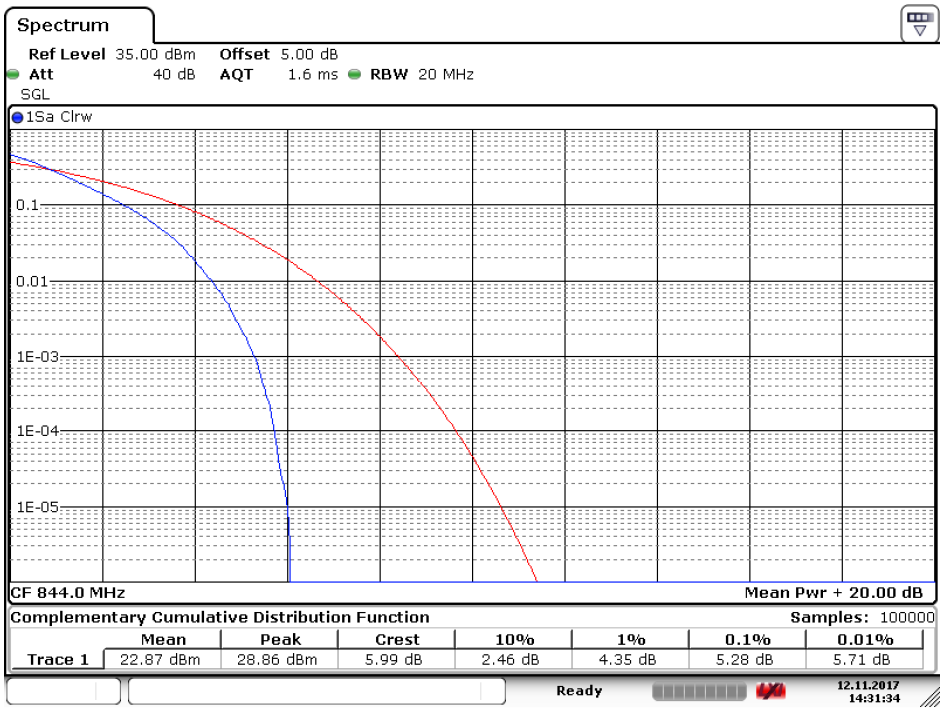
Date: 12.NOV.2017 14:29:19

2.1.1.1.2 Test Channel = MCH



Date: 12.NOV.2017 14:30:37

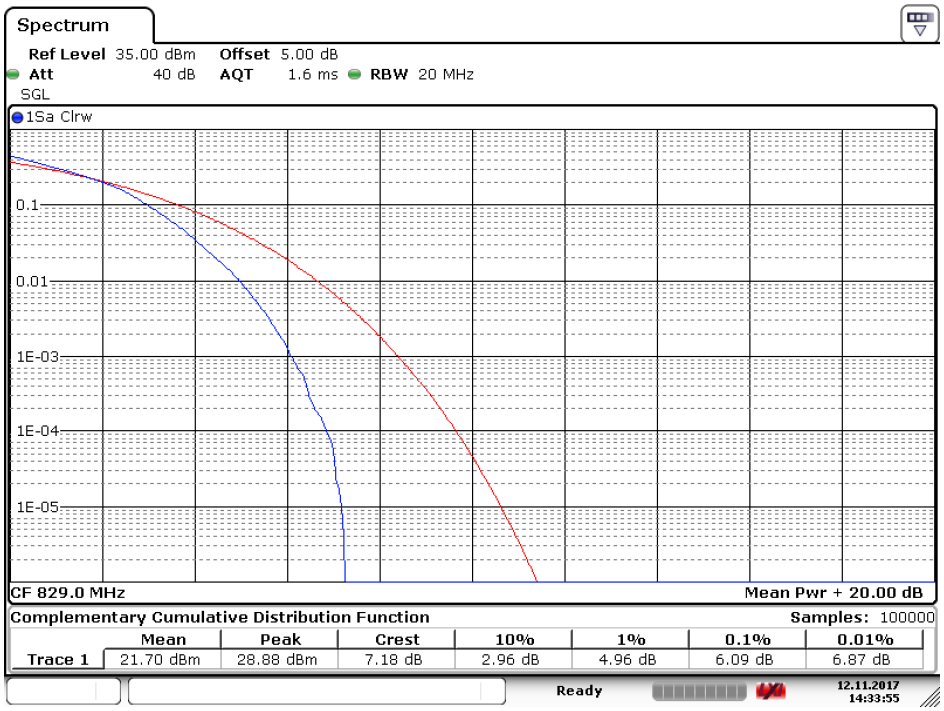
2.1.1.1.3 Test Channel = HCH



Date: 12.NOV.2017 14:31:34

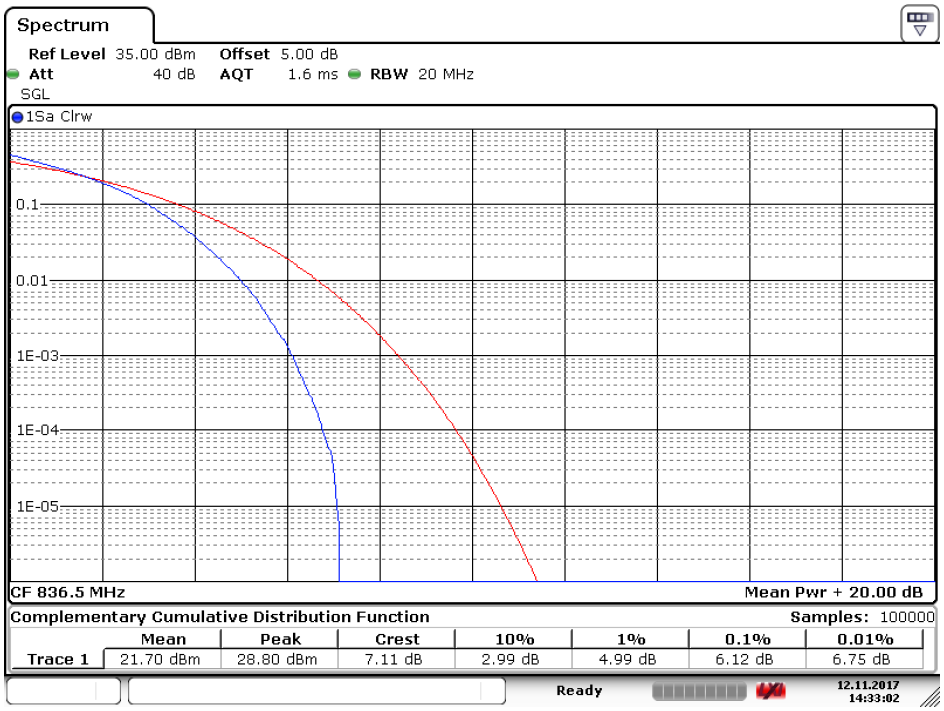
2.1.1.2 Test Mode = LTE/TM2.Bandwidth=10MHz

2.1.1.2.1 Test Channel = LCH



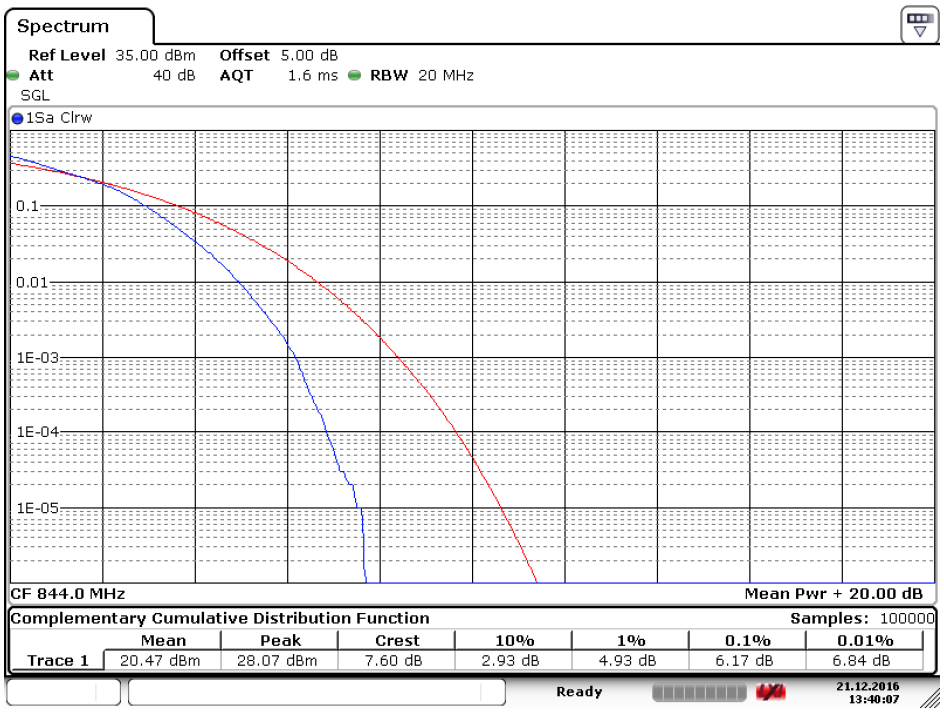
Date: 12.NOV.2017 14:33:55

2.1.1.2.2 Test Channel = MCH



Date: 12.NOV.2017 14:33:03

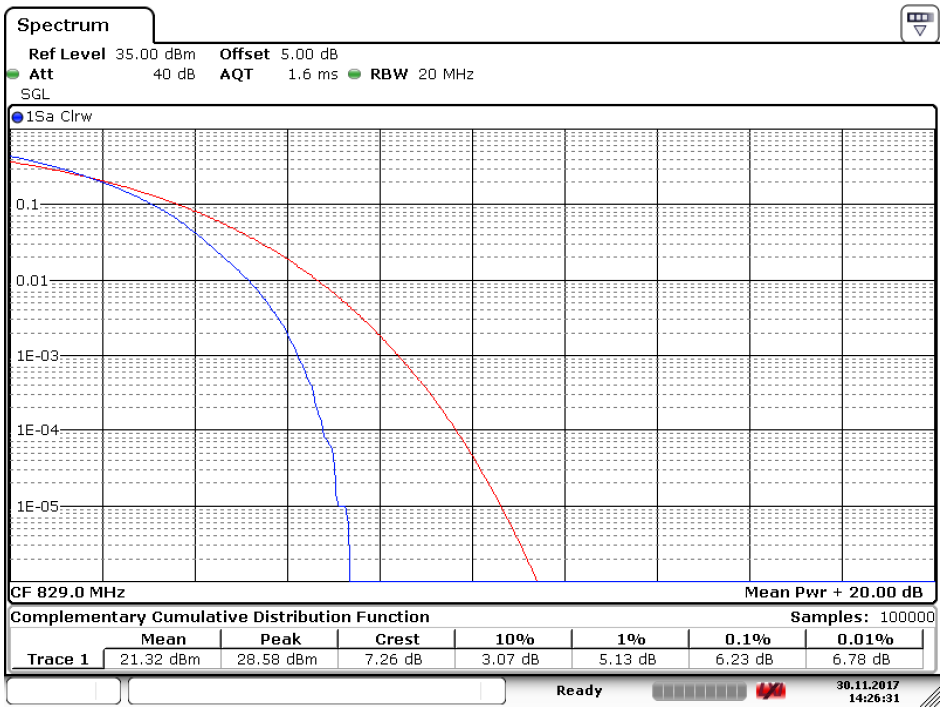
2.1.1.2.3 Test Channel = HCH



Date: 21.DEC.2016 13:40:08

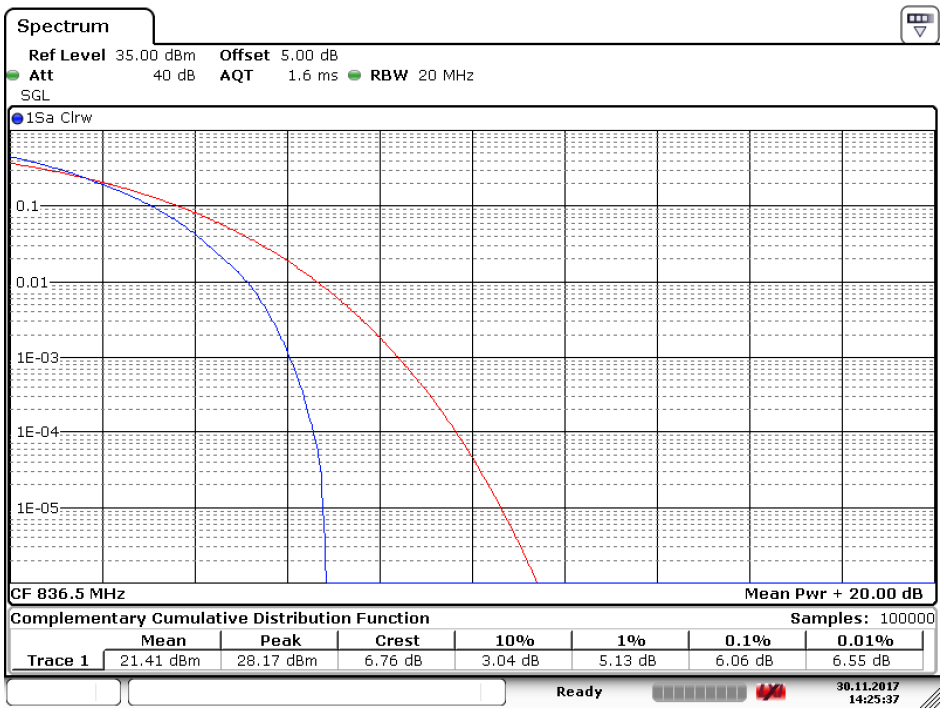
2.1.1.3 Test Mode = LTE/TM3.Bandwidth=10MHz

2.1.1.3.1 Test Channel = LCH



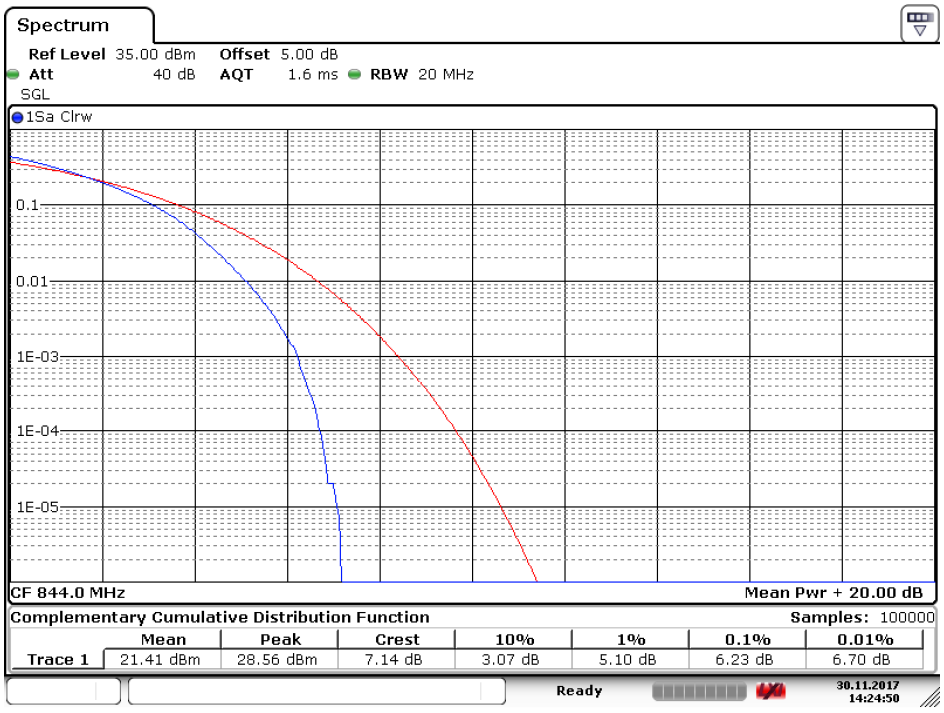
Date: 30.NOV.2017 14:26:32

2.1.1.3.2 Test Channel = MCH



Date: 30.NOV.2017 14:25:38

2.1.1.3.3 Test Channel = HCH



Date: 30.NOV.2017 14:24:50

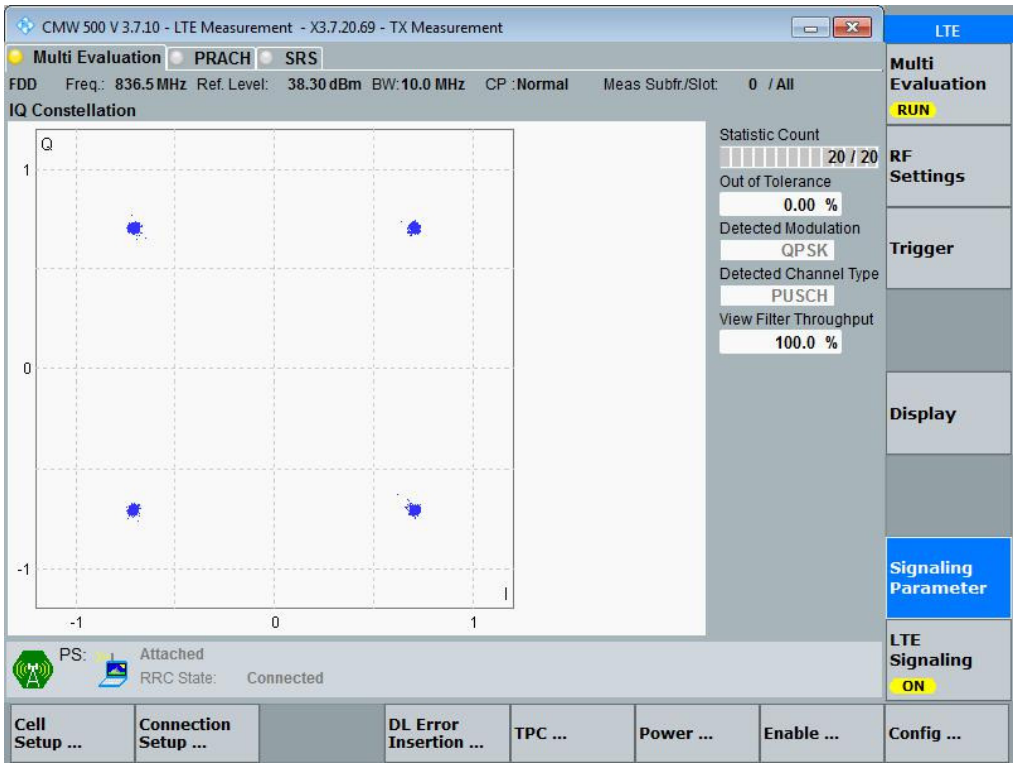
3 Modulation Characteristics

3.1 For LTE

3.1.1 Test Band = LTE band5

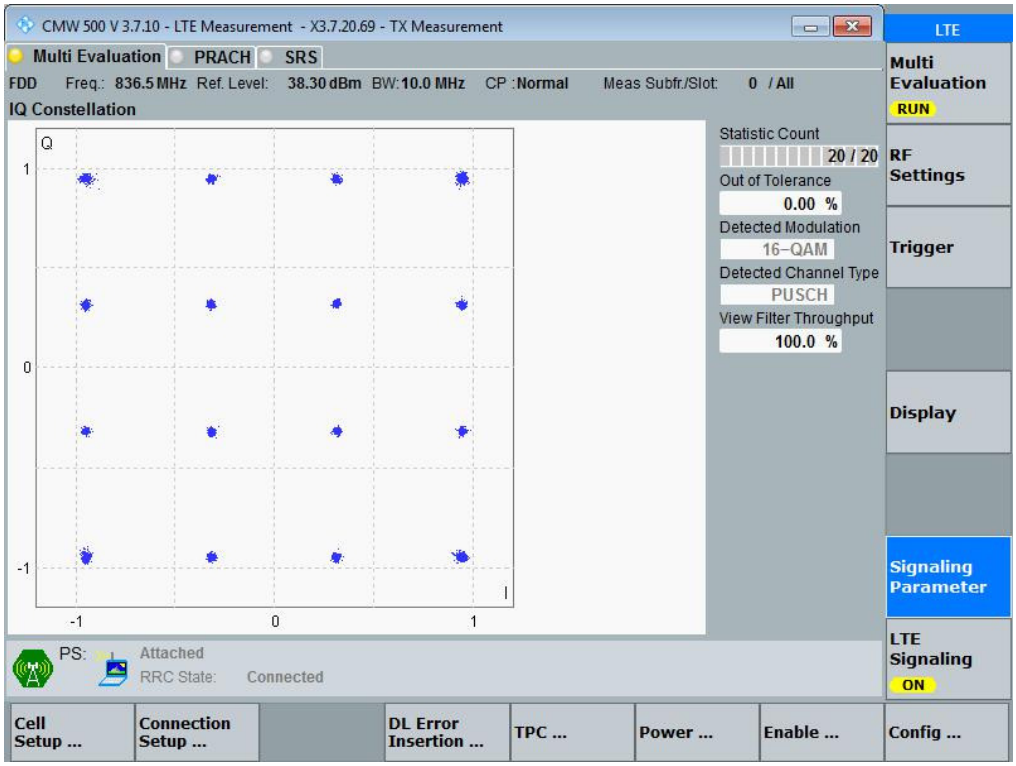
3.1.1.1 Test Mode = LTE /TM1 10MHz

3.1.1.1.1 Test Channel = MCH



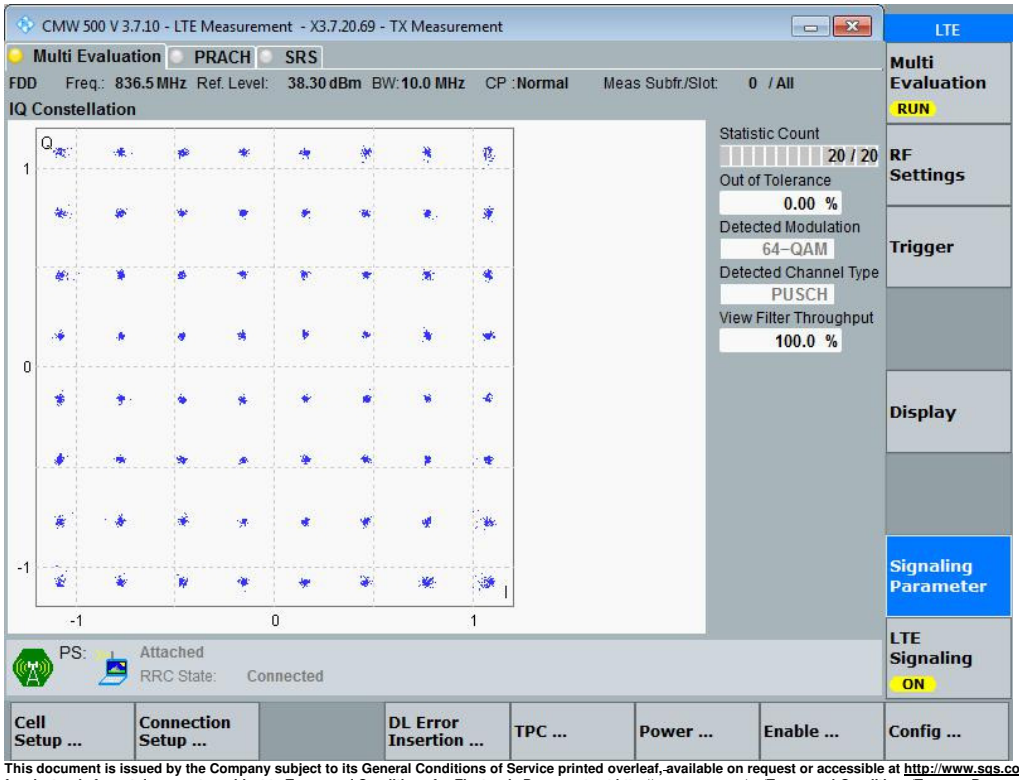
3.1.1.2 Test Mode = LTE /TM2 10MHz

3.1.1.2.1 Test Channel = MCH



3.1.1.3 Test Mode = LTE /TM3 10MHz

3.1.1.3.1 Test Channel = MCH



4 Bandwidth

Part Ⅰ - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band 5	TM1/1.4MHz	LCH	1.10	1.24	PASS
		MCH	1.10	1.25	PASS
		HCH	1.10	1.24	PASS
	TM2/1.4MHz	LCH	1.10	1.26	PASS
		MCH	1.11	1.25	PASS
		HCH	1.10	1.24	PASS
	TM3/1.4MHz	LCH	1.10	1.25	PASS
		MCH	1.10	1.24	PASS
		HCH	1.10	1.24	PASS
	TM1/ 3MHz	LCH	2.70	2.94	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.93	PASS
	TM2/3MHz	LCH	2.69	2.94	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.91	PASS
	TM3/3MHz	LCH	2.69	2.93	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.92	PASS
	TM1/ 5MHz	LCH	4.48	4.90	PASS
		MCH	4.47	4.91	PASS
		HCH	4.49	4.89	PASS
	TM2/ 5MHz	LCH	4.49	4.89	PASS
		MCH	4.49	4.91	PASS
		HCH	4.49	4.88	PASS
	TM3/ 5MHz	LCH	4.48	4.88	PASS
		MCH	4.48	4.87	PASS
		HCH	4.50	4.91	PASS
	TM1/10MHz	LCH	8.97	9.79	PASS
		MCH	8.93	9.75	PASS
		HCH	8.97	9.75	PASS
	TM2/ 10MHz	LCH	8.97	9.77	PASS
		MCH	8.97	9.79	PASS
		HCH	8.97	9.79	PASS

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
Band5	TM3/ 10MHz	LCH	8.97	9.71	PASS
		MCH	8.93	9.63	PASS
		HCH	8.97	9.69	PASS

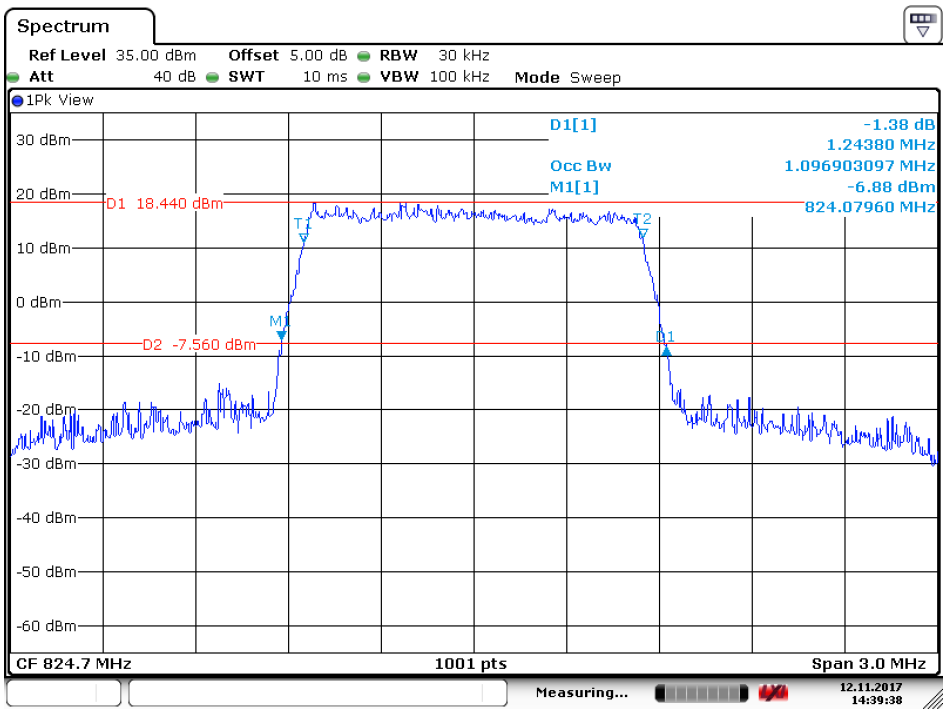
Part Ⅱ –Test Plots

4.1 For LTE

4.1.1 Test Band = LTE band5

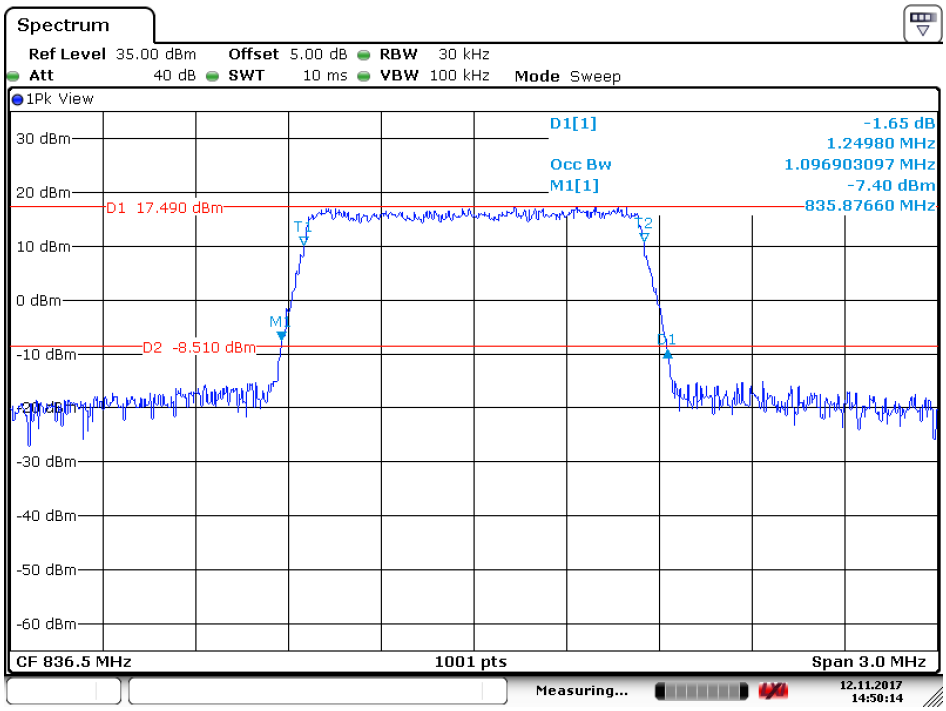
4.1.1.1 Test Mode = LTE/TM1 1.4MHz

4.1.1.1.1 Test Channel = LCH



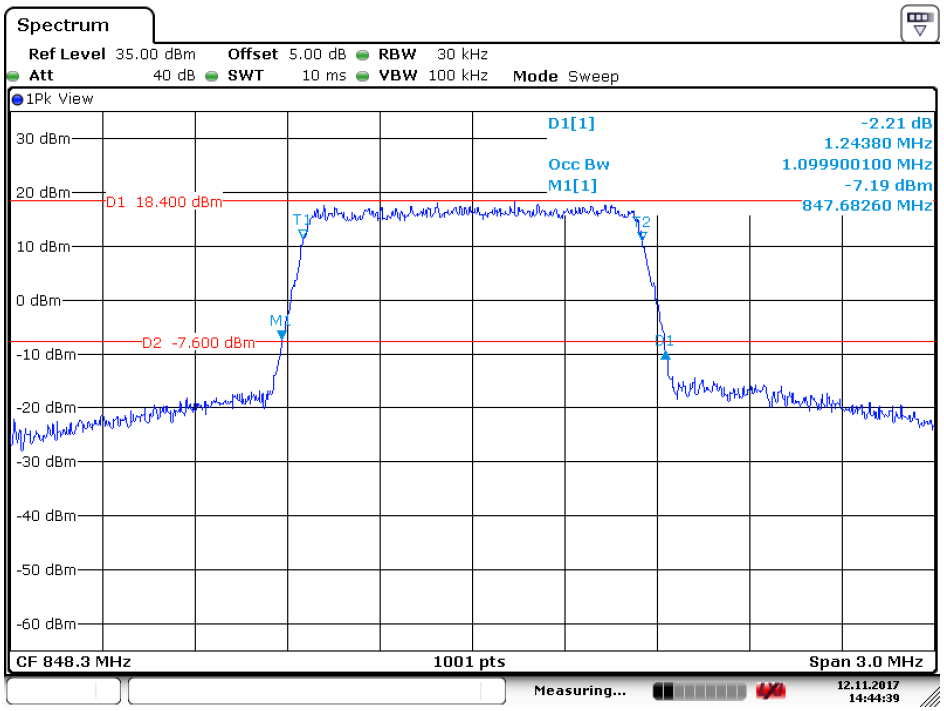
Date: 12.NOV.2017 14:39:38

4.1.1.1.2 Test Channel = MCH



Date: 12.NOV.2017 14:50:14

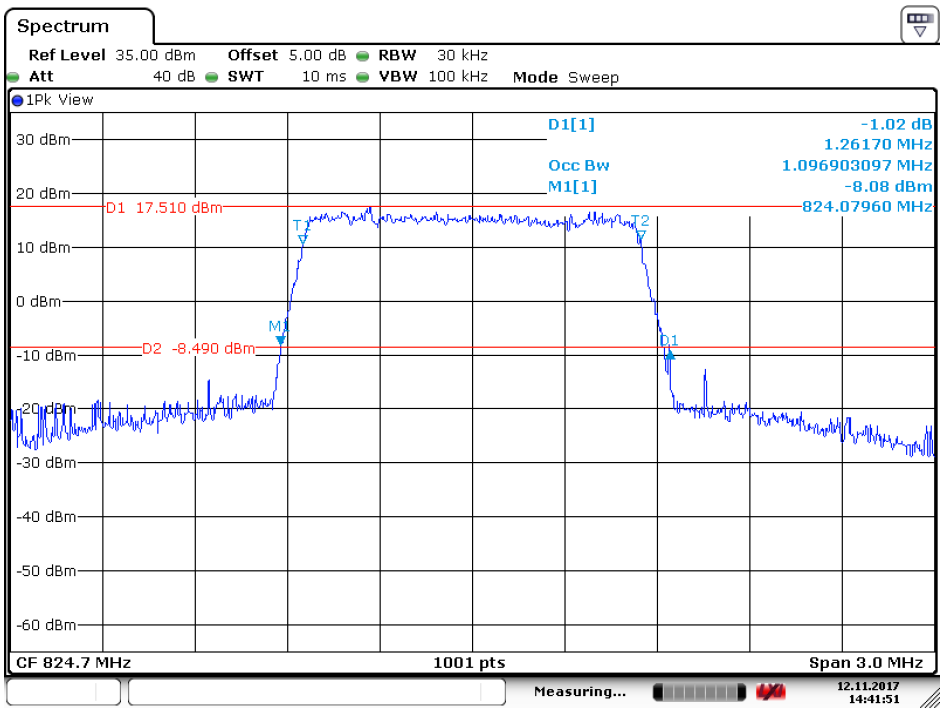
4.1.1.1.3 Test Channel = HCH



Date: 12.NOV.2017 14:44:40

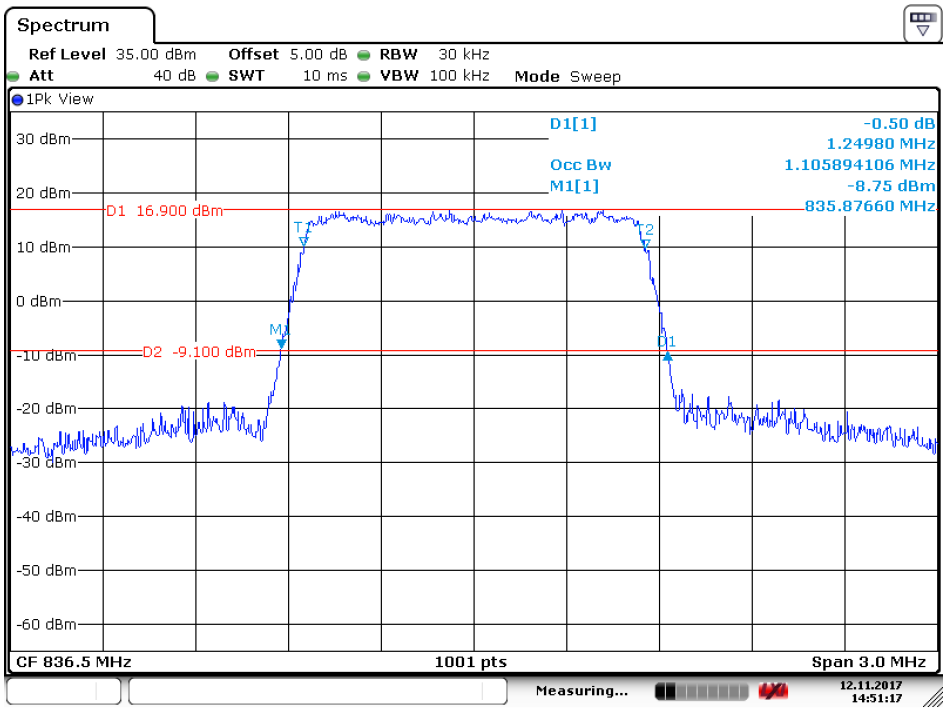
4.1.1.2 Test Mode = LTE/TM2 1.4MHz

4.1.1.2.1 Test Channel = LCH



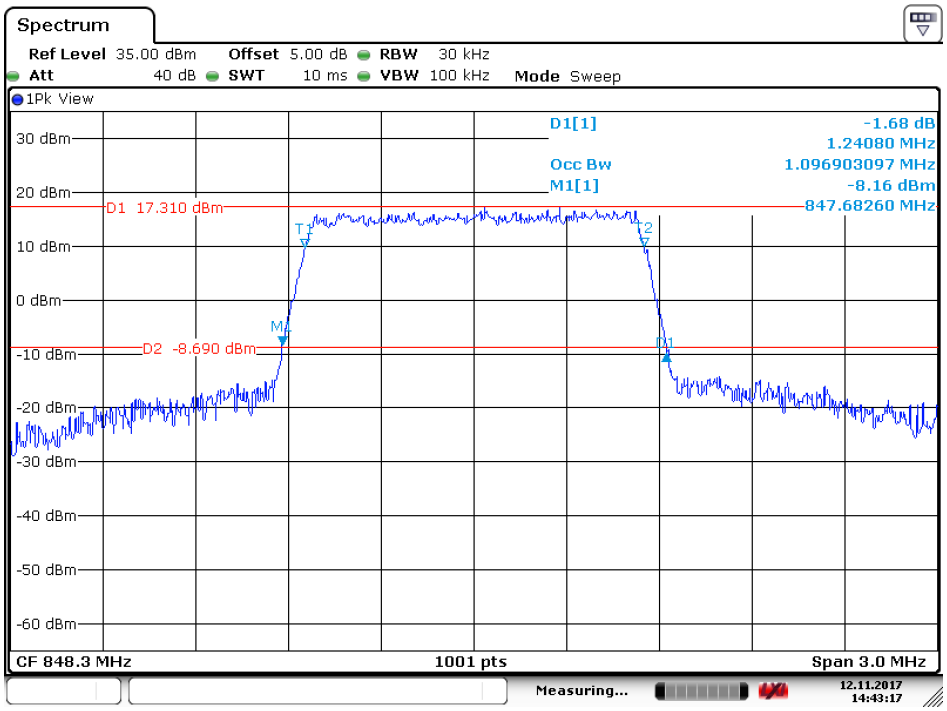
Date: 12.NOV.2017 14:41:51

4.1.1.2.2 Test Channel = MCH



Date: 12.NOV.2017 14:51:18

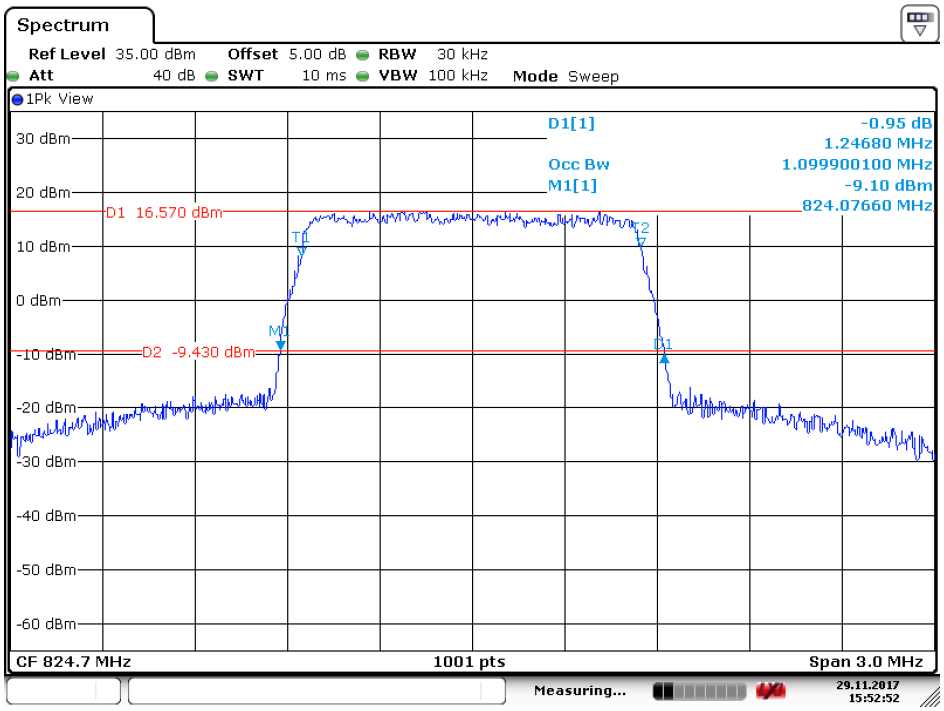
4.1.1.2.3 Test Channel = HCH



Date: 12.NOV.2017 14:43:17

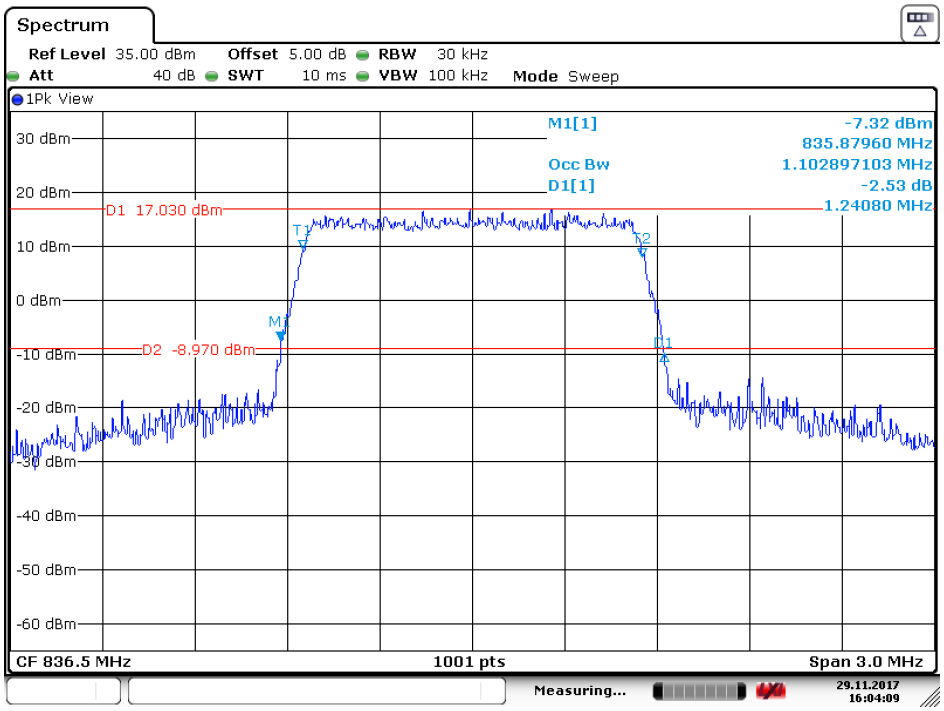
4.1.1.3 Test Mode = LTE/TM3 1.4MHz

4.1.1.3.1 Test Channel = LCH



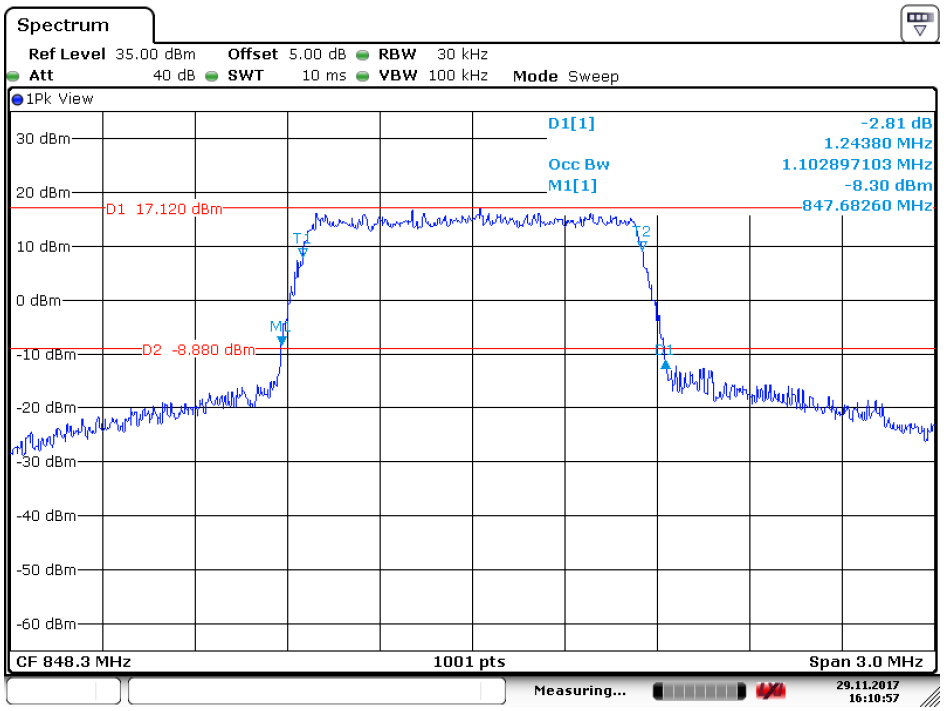
Date: 29.NOV.2017 15:52:53

4.1.1.3.2 Test Channel = MCH



Date: 29.NOV.2017 16:04:09

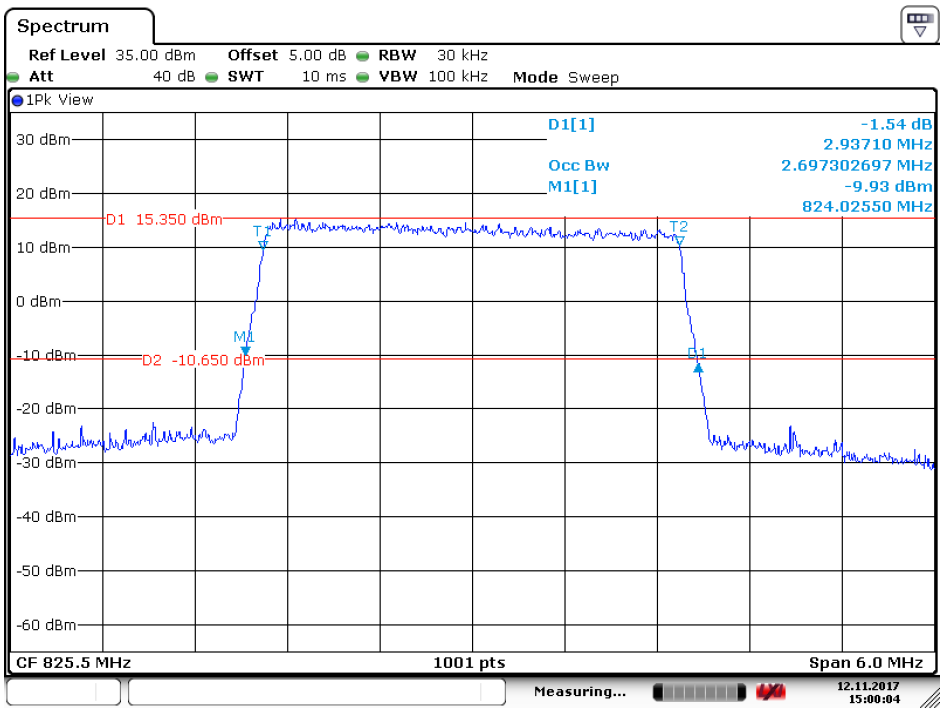
4.1.1.3.3 Test Channel = HCH



Date: 29.NOV.2017 16:10:57

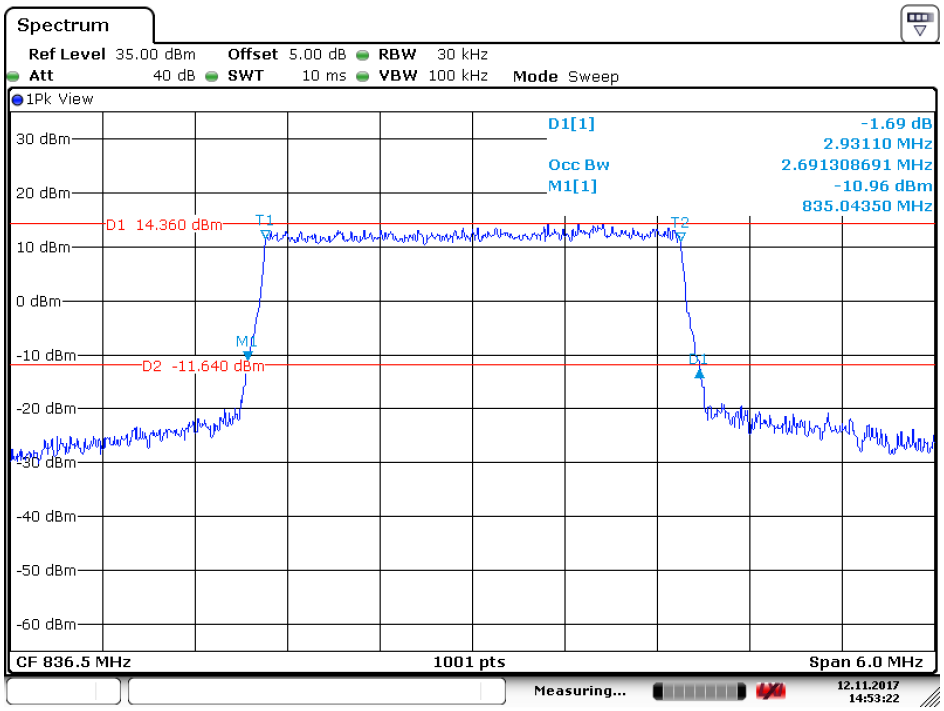
4.1.1.4 Test Mode = LTE/TM1 3MHz

4.1.1.4.1 Test Channel = LCH



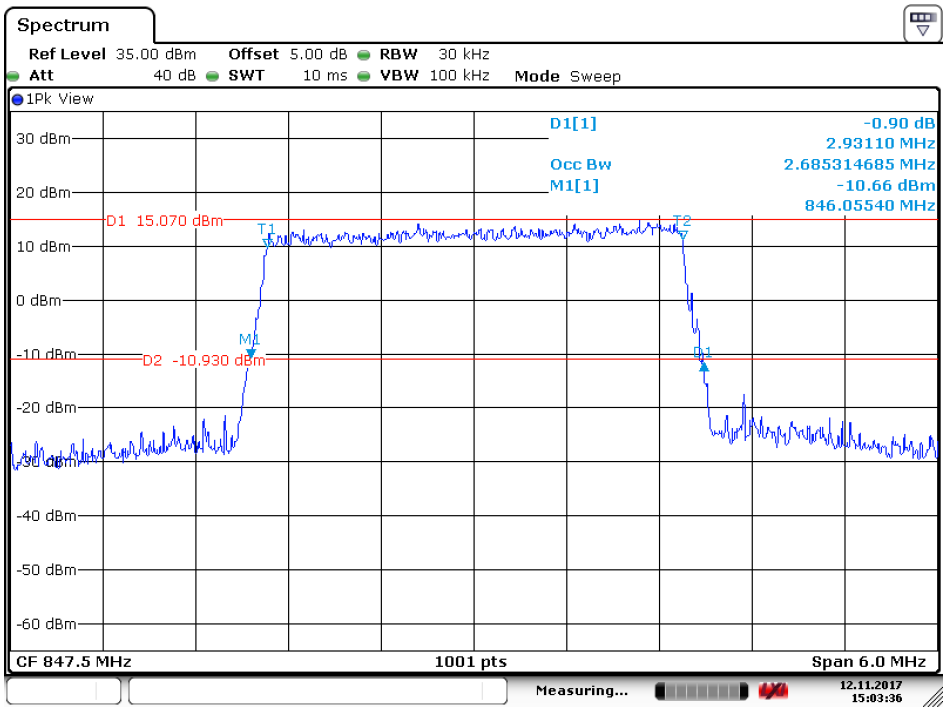
Date: 12.NOV.2017 15:00:04

4.1.1.4.2 Test Channel = MCH



Date: 12.NOV.2017 14:53:23

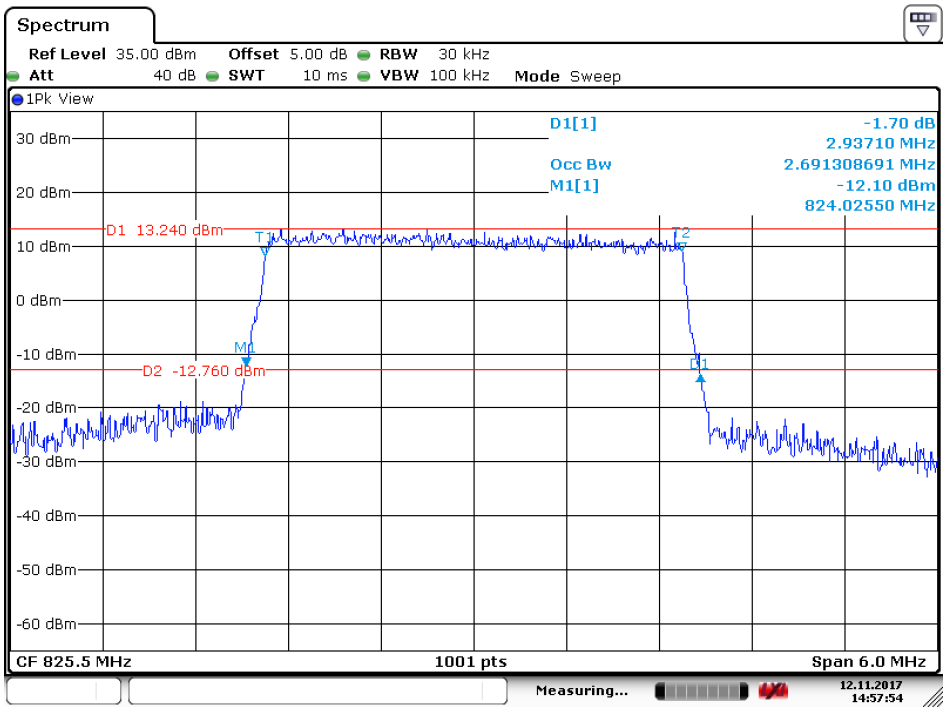
4.1.1.4.3 Test Channel = HCH



Date: 12.NOV.2017 15:03:36

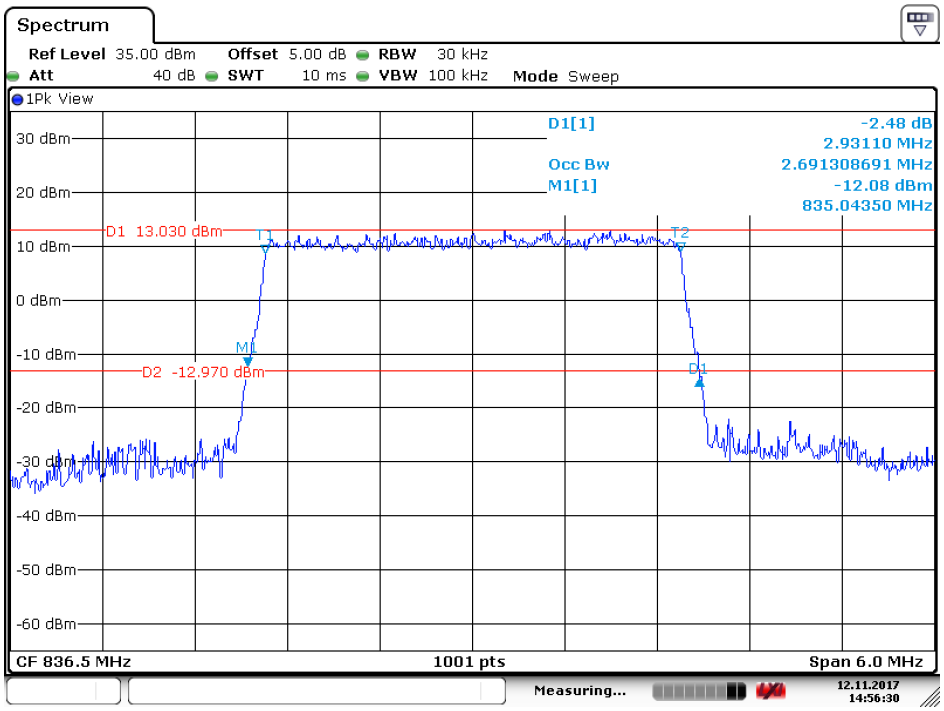
4.1.1.5 Test Mode = LTE/TM2 3MHz

4.1.1.5.1 Test Channel = LCH



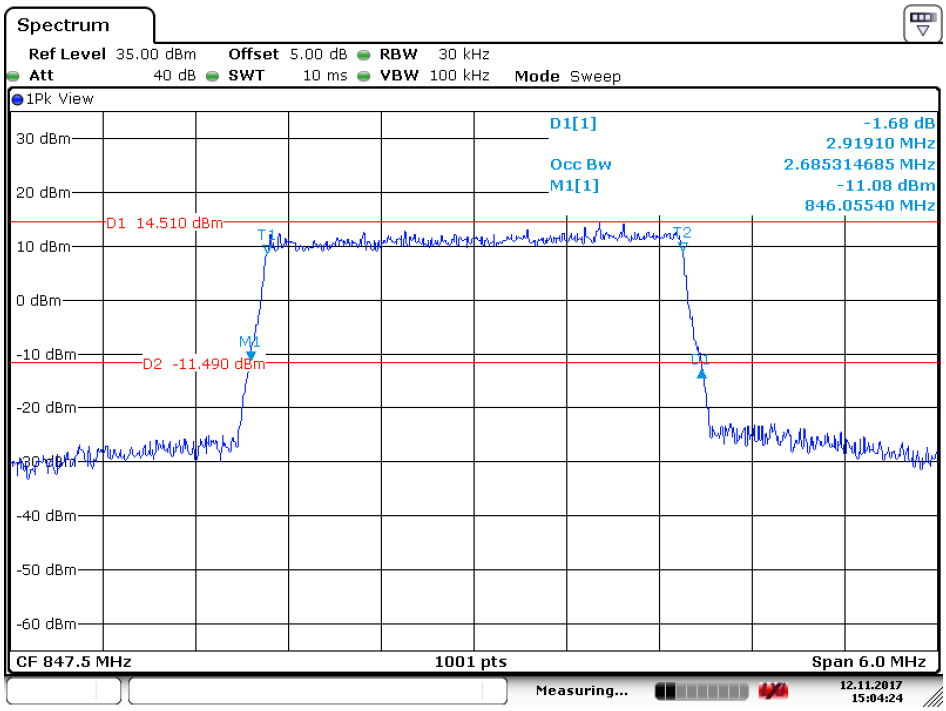
Date: 12.NOV.2017 14:57:54

4.1.1.5.2 Test Channel = MCH



Date: 12.NOV.2017 14:56:30

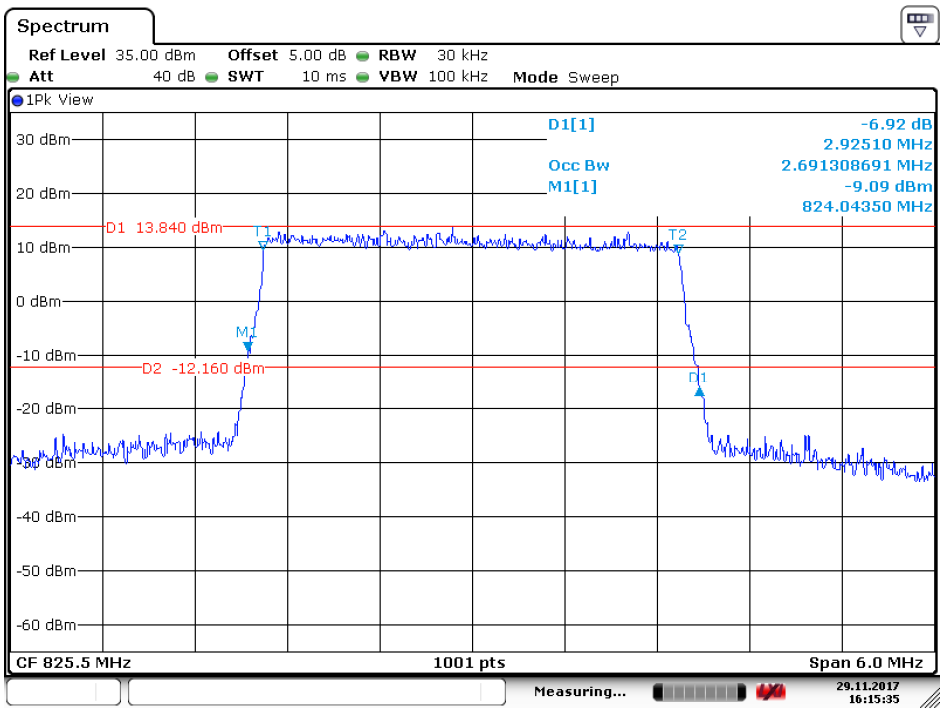
4.1.1.5.3 Test Channel = HCH



Date: 12.NOV.2017 15:04:24

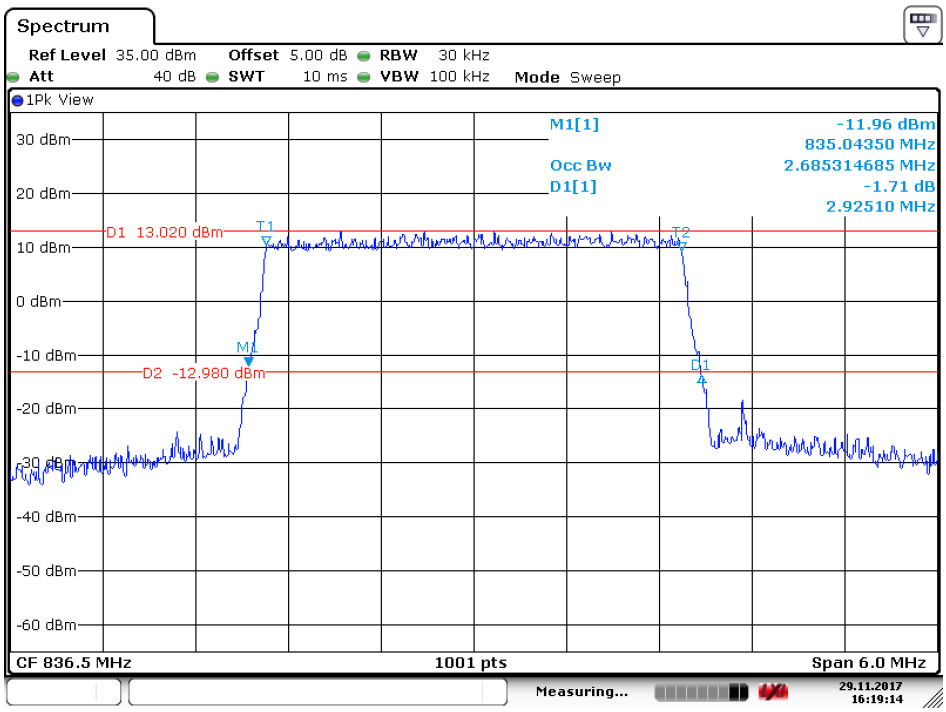
4.1.1.6 Test Mode = LTE/TM3 3MHz

4.1.1.6.1 Test Channel = LCH



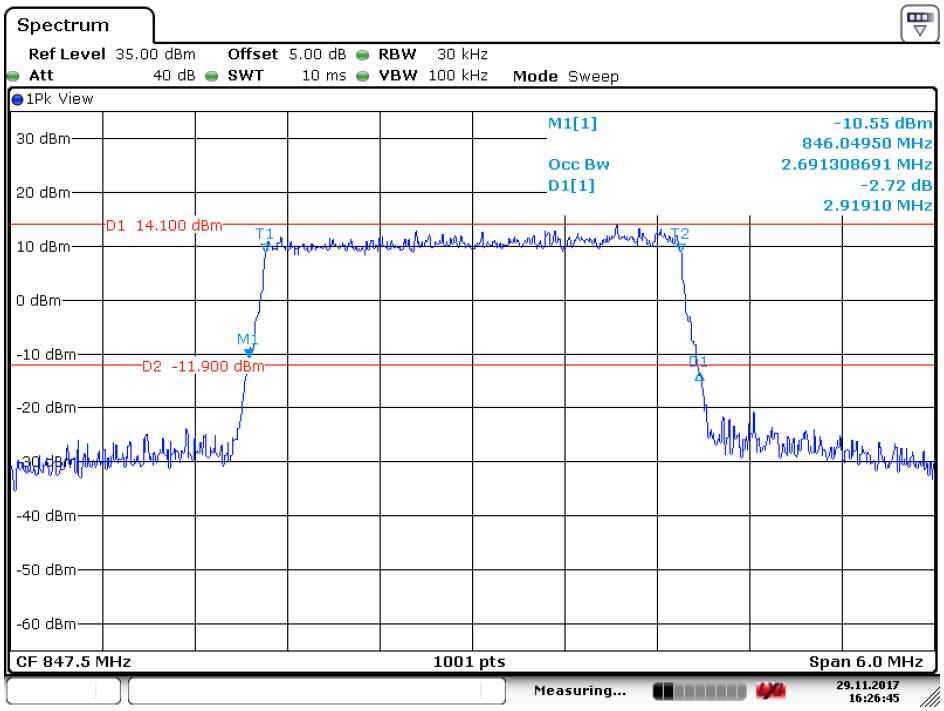
Date: 29.NOV.2017 16:15:35

4.1.1.6.2 Test Channel = MCH



Date: 29.NOV.2017 16:19:15

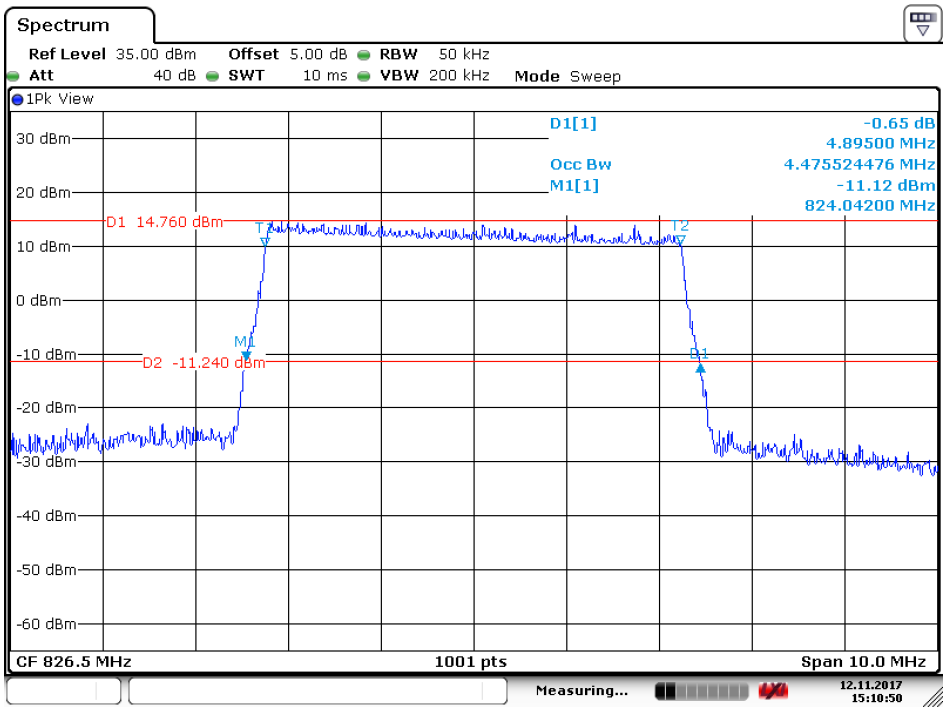
4.1.1.6.3 Test Channel = HCH



Date: 29.NOV.2017 16:26:45

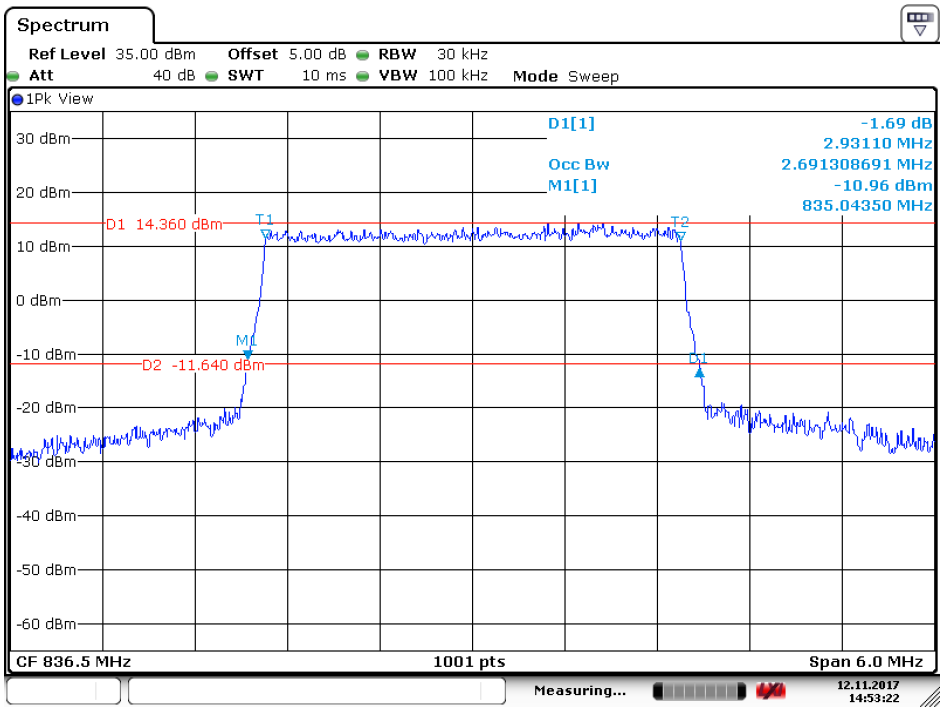
4.1.1.7 Test Mode = LTE/TM1 5MHz

4.1.1.7.1 Test Channel = LCH



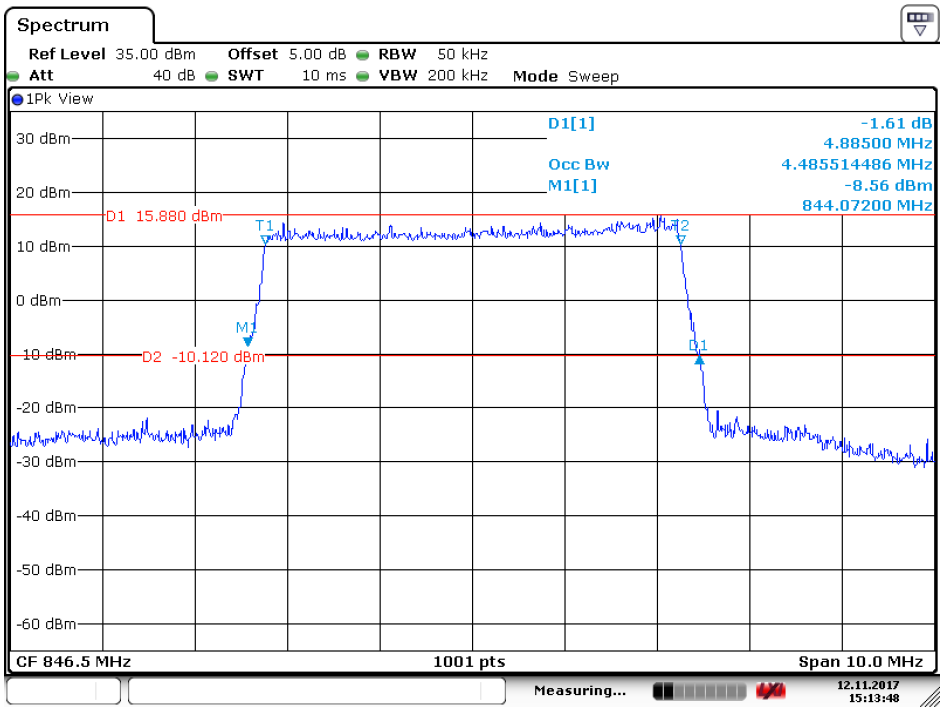
Date: 12.NOV.2017 15:10:50

4.1.1.7.2 Test Channel = MCH



Date: 12.NOV.2017 14:53:23

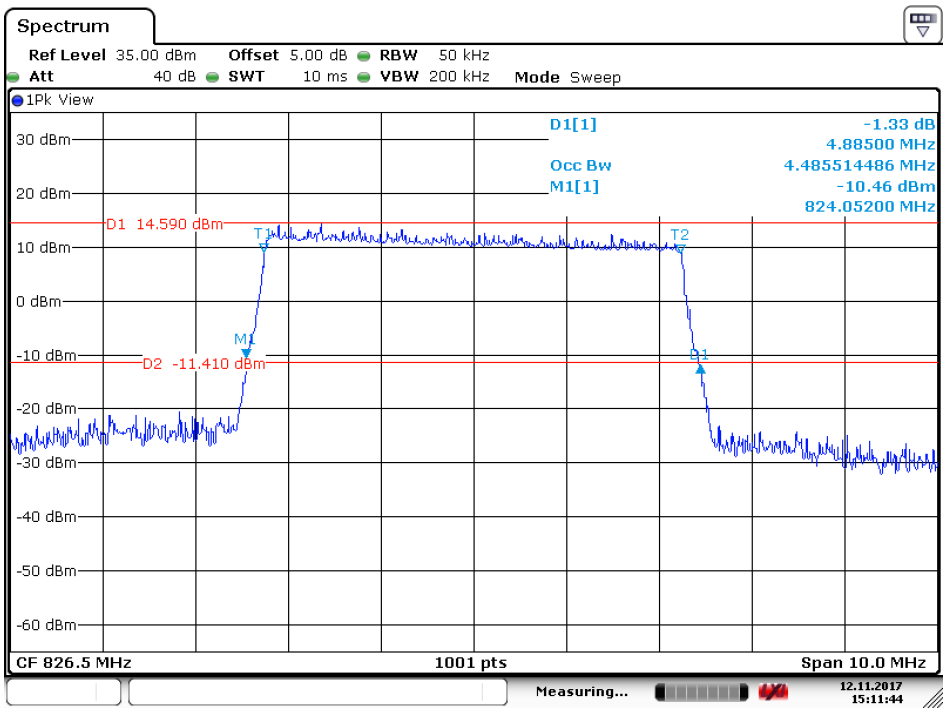
4.1.1.7.3 Test Channel = HCH



Date: 12.NOV.2017 15:13:49

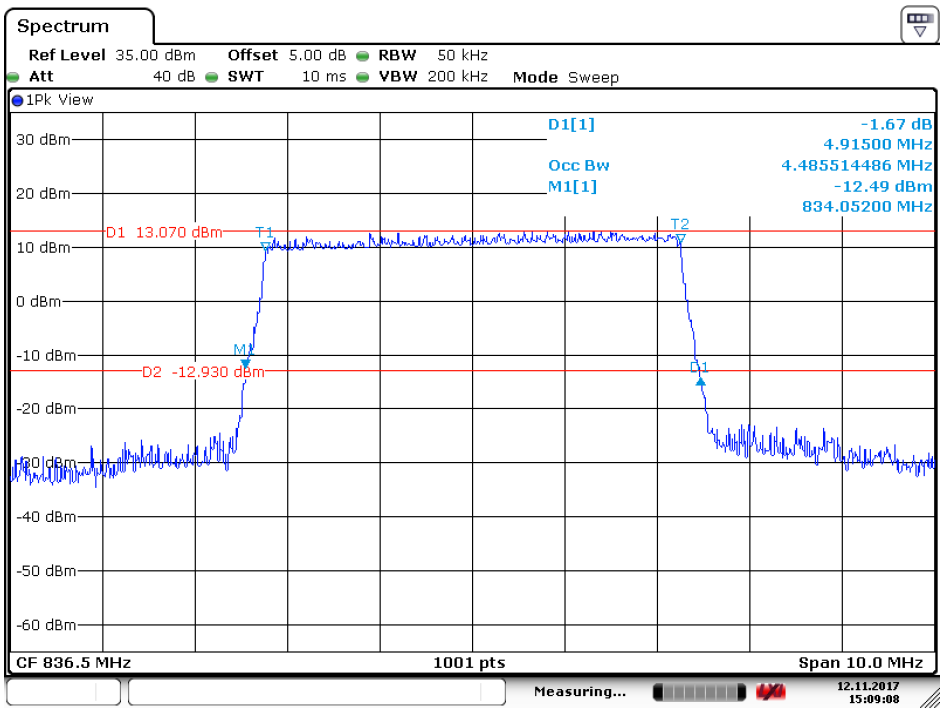
4.1.1.8 Test Mode = LTE/TM2 5MHz

4.1.1.8.1 Test Channel = LCH



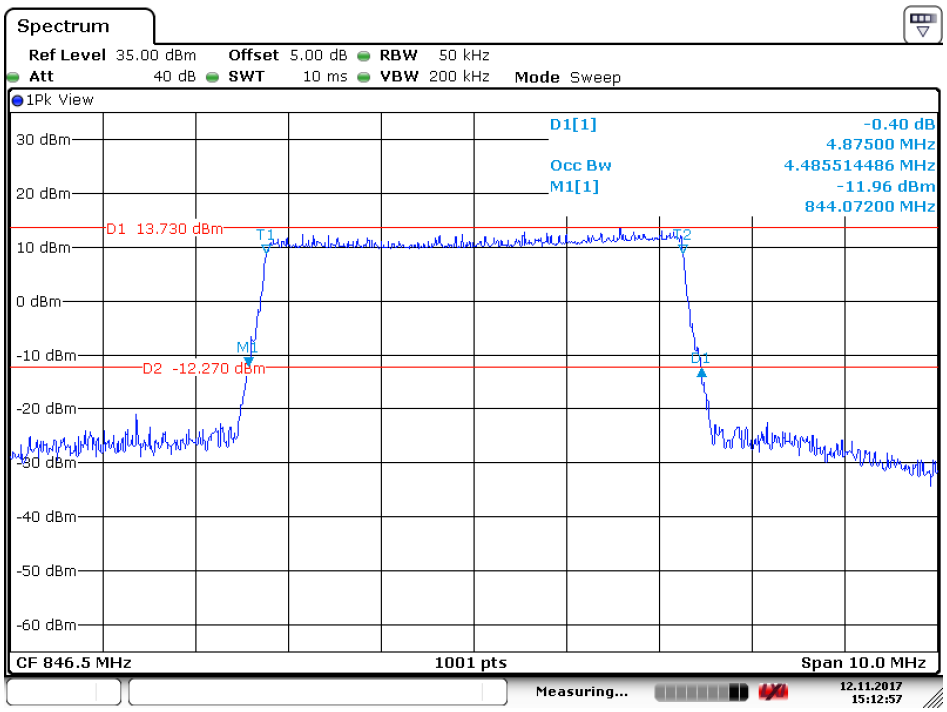
Date: 12.NOV.2017 15:11:44

4.1.1.8.2 Test Channel = MCH



Date: 12.NOV.2017 15:09:08

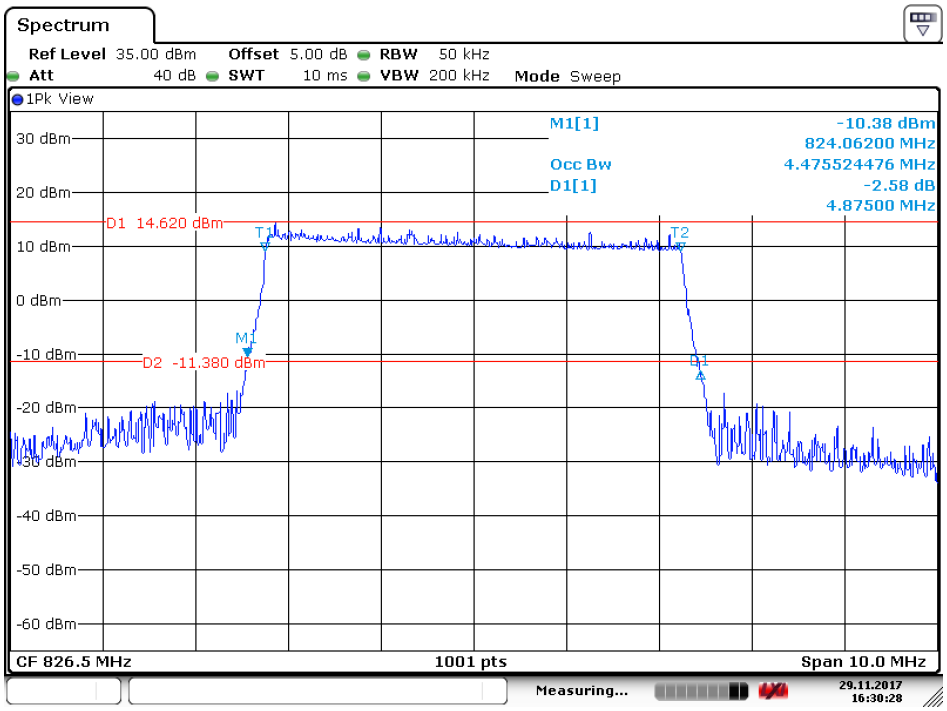
4.1.1.8.3 Test Channel = HCH



Date: 12.NOV.2017 15:12:58

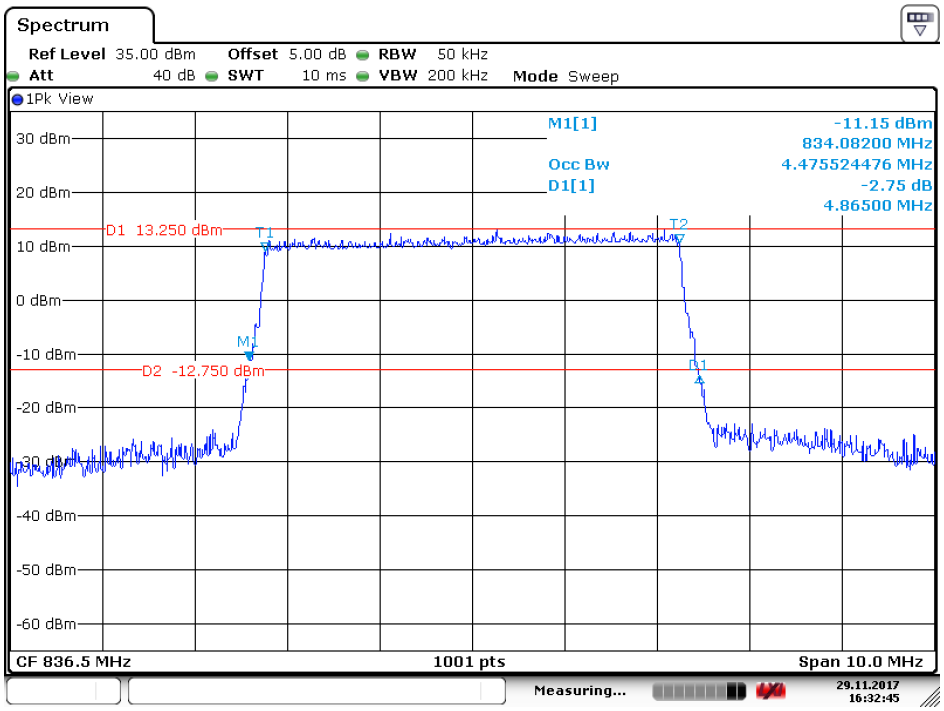
4.1.1.9 Test Mode = LTE/TM3 5MHz

4.1.1.9.1 Test Channel = LCH



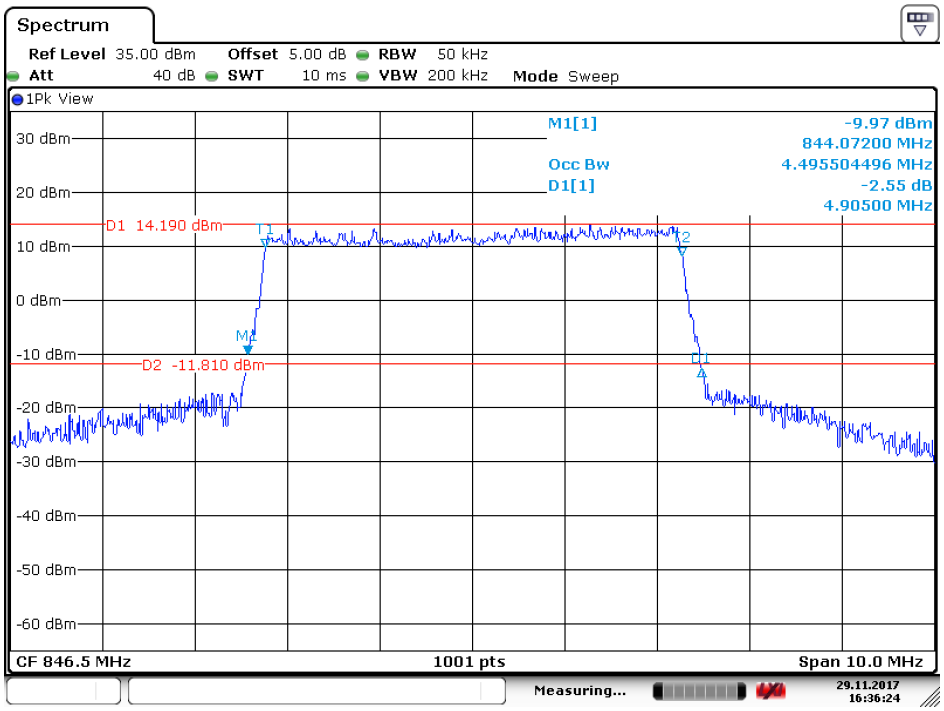
Date: 29.NOV.2017 16:30:29

4.1.1.9.2 Test Channel = MCH



Date: 29.NOV.2017 16:32:46

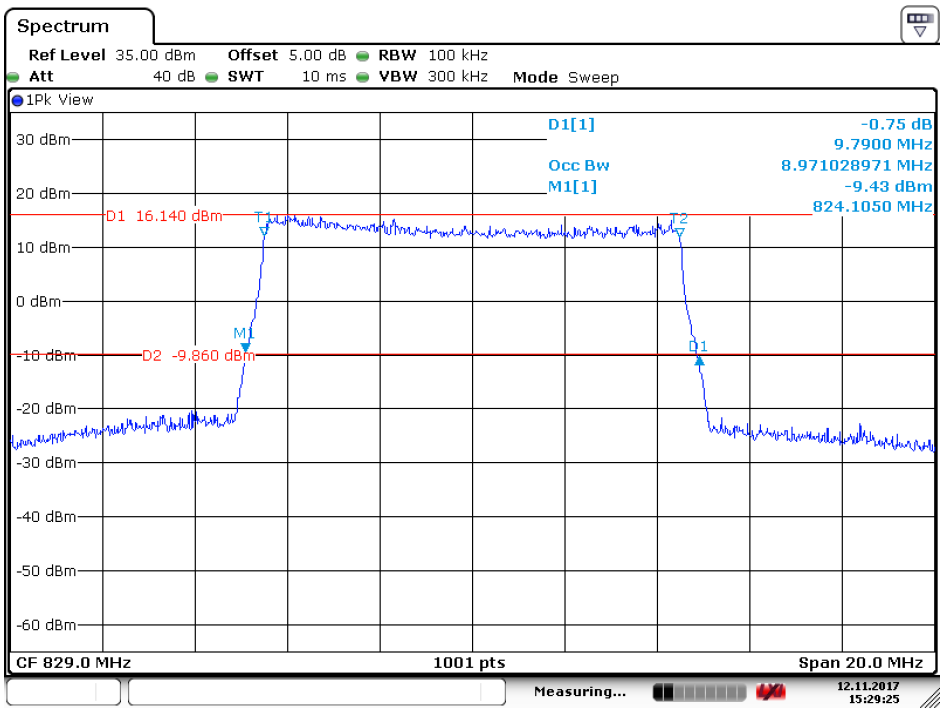
4.1.1.9.3 Test Channel = HCH



Date: 29.NOV.2017 16:36:25

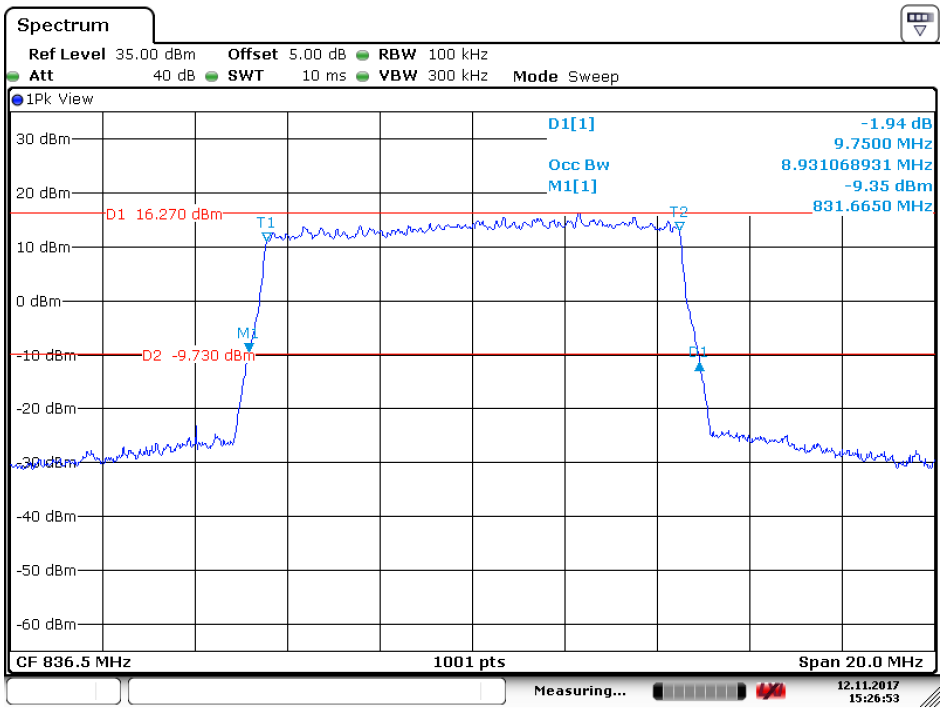
4.1.1.10 Test Mode = LTE/TM1 10MHz

4.1.1.10.1 Test Channel = LCH



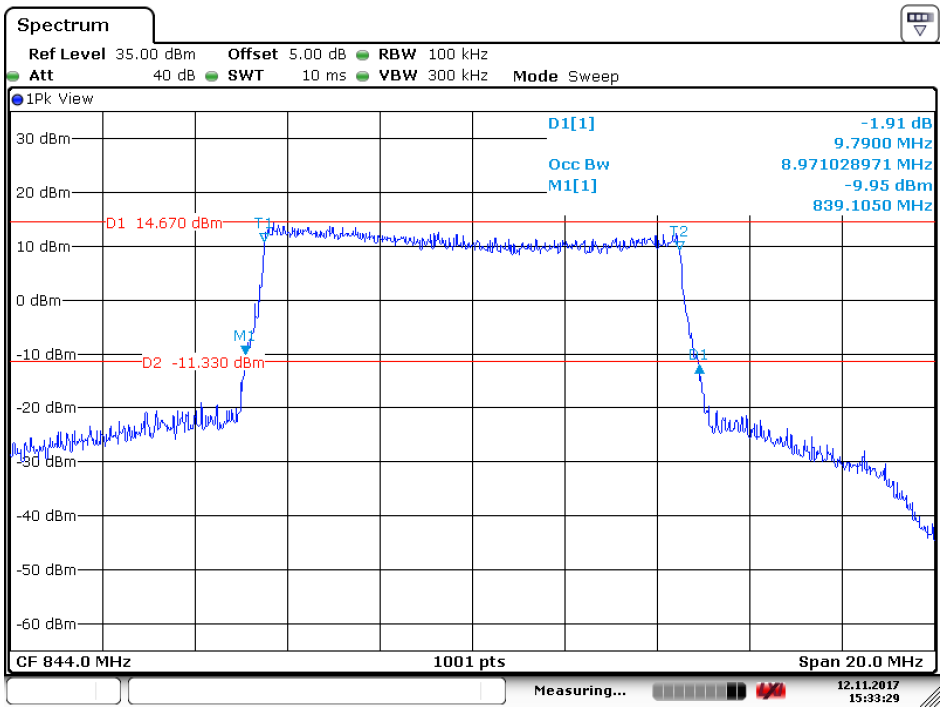
Date: 12.NOV.2017 15:29:26

4.1.1.10.2 Test Channel = MCH



Date: 12.NOV.2017 15:26:54

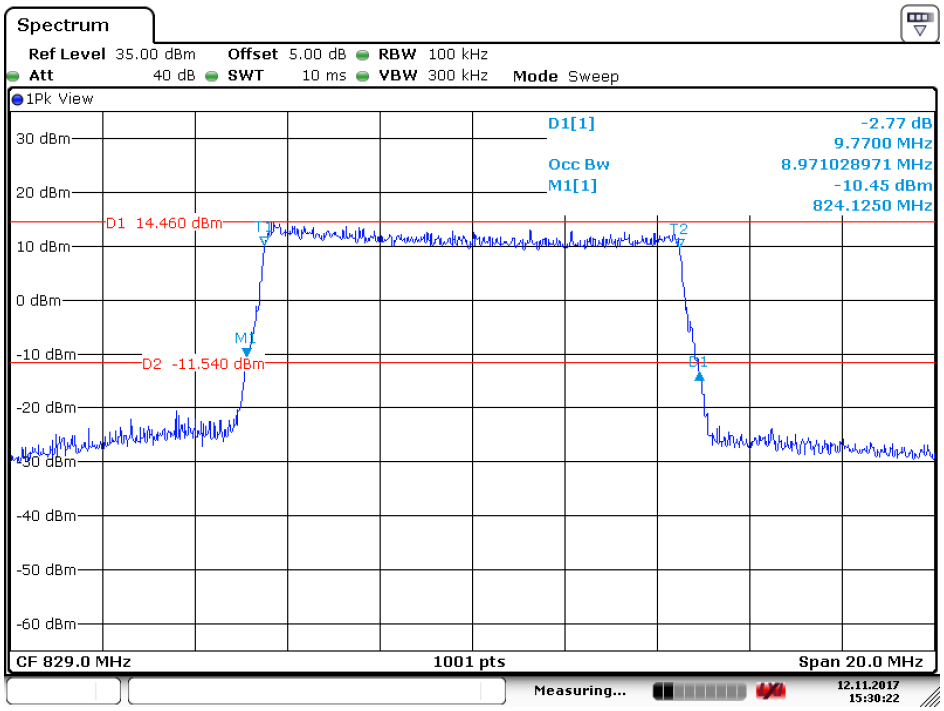
4.1.1.10.3 Test Channel = HCH



Date: 12.NOV.2017 15:33:30

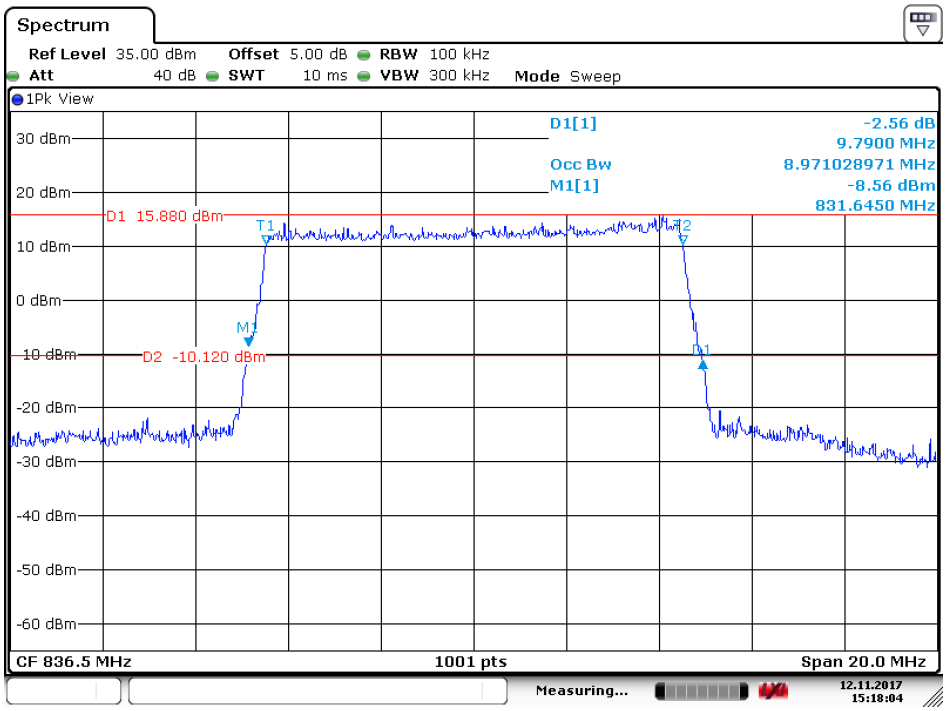
4.1.1.11 Test Mode = LTE/TM2 10MHz

4.1.1.11.1 Test Channel = LCH



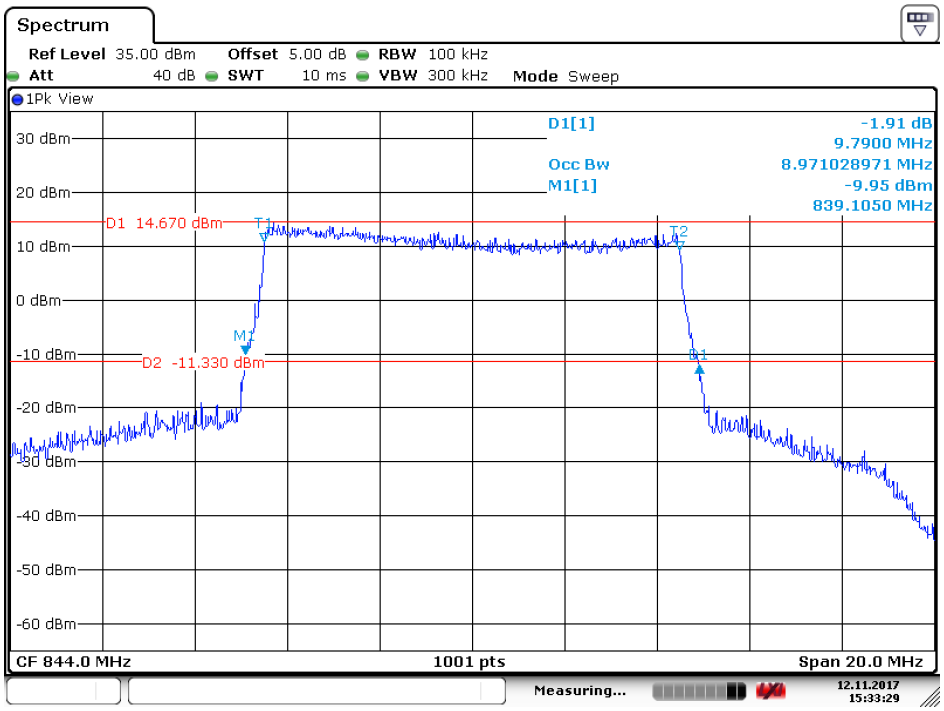
Date: 12.NOV.2017 15:30:22

4.1.1.11.2 Test Channel = MCH



Date: 12.NOV.2017 15:18:04

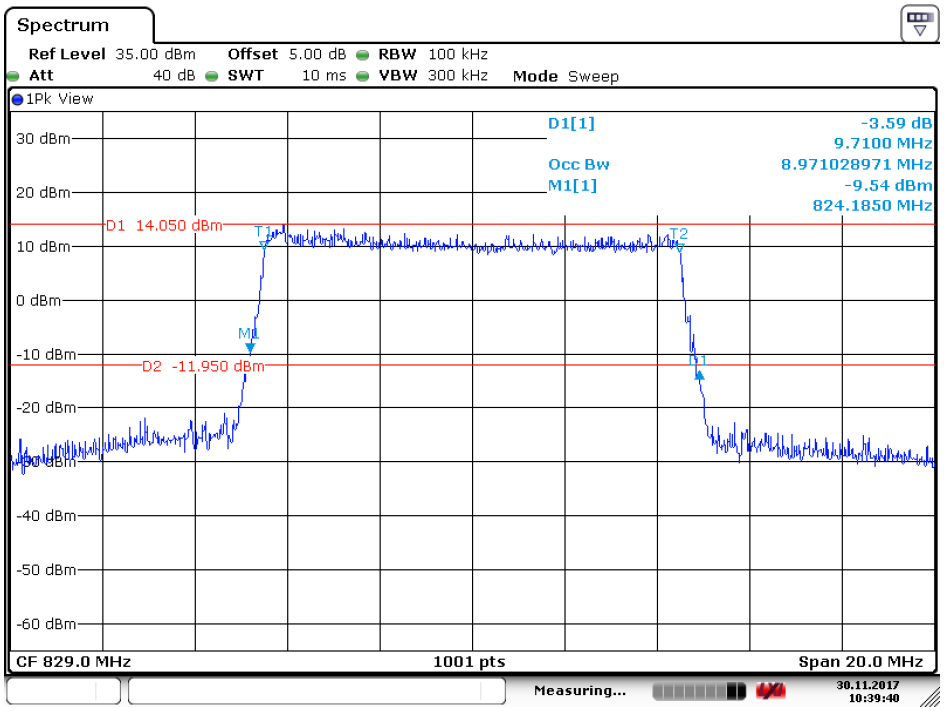
4.1.1.11.3 Test Channel = HCH



Date: 12.NOV.2017 15:33:30

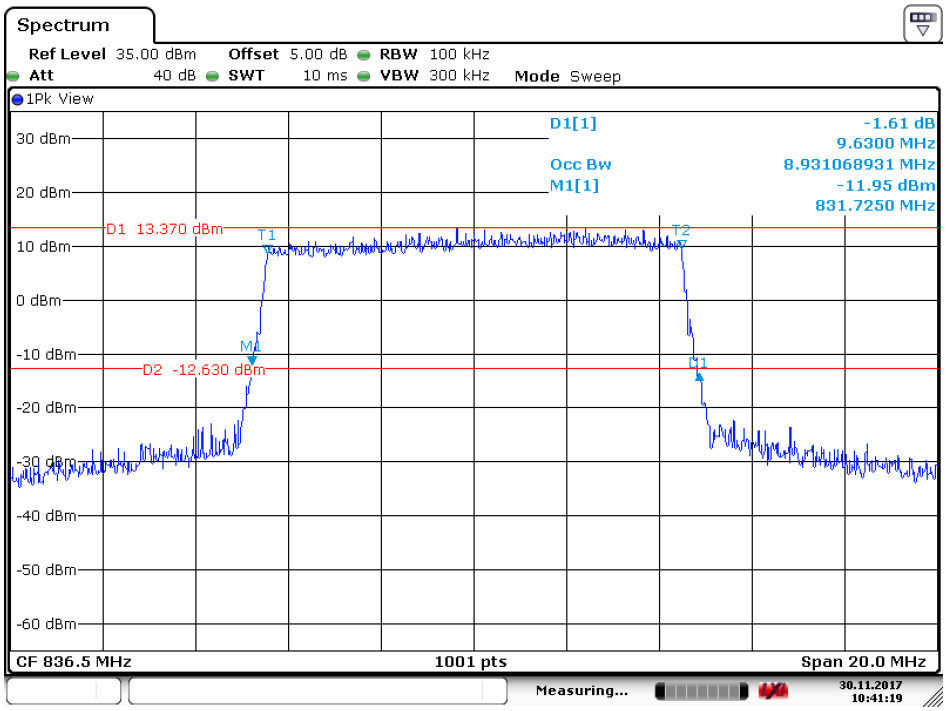
4.1.1.12 Test Mode = LTE/TM3 10MHz

4.1.1.12.1 Test Channel = LCH



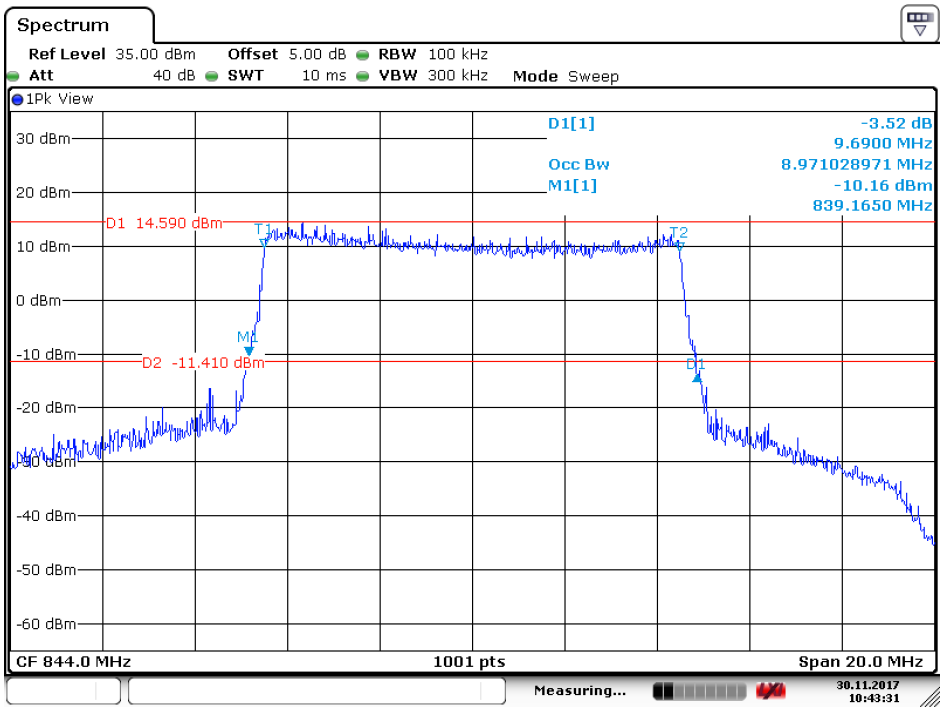
Date: 30.NOV.2017 10:39:41

4.1.1.12.2 Test Channel = MCH



Date: 30.NOV.2017 10:41:19

4.1.1.12.3 Test Channel = HCH



Date: 30.NOV.2017 10:43:32

5 Band Edges Compliance

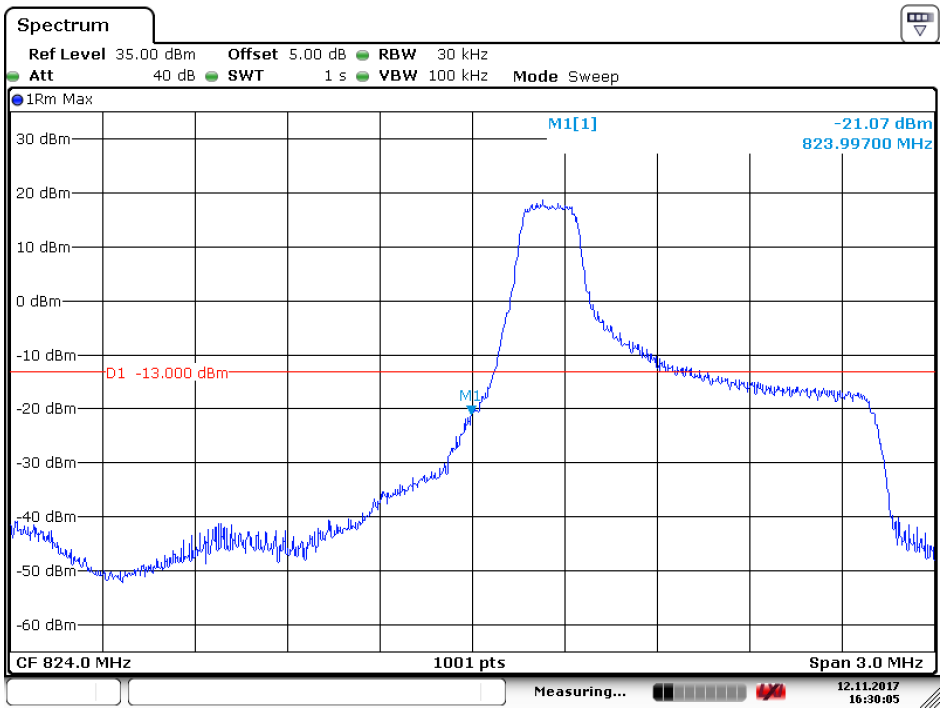
5.1 For LTE

5.1.1 Test Band = LTE band5

5.1.1.1 Test Mode = LTE/TM1 1.4MHz

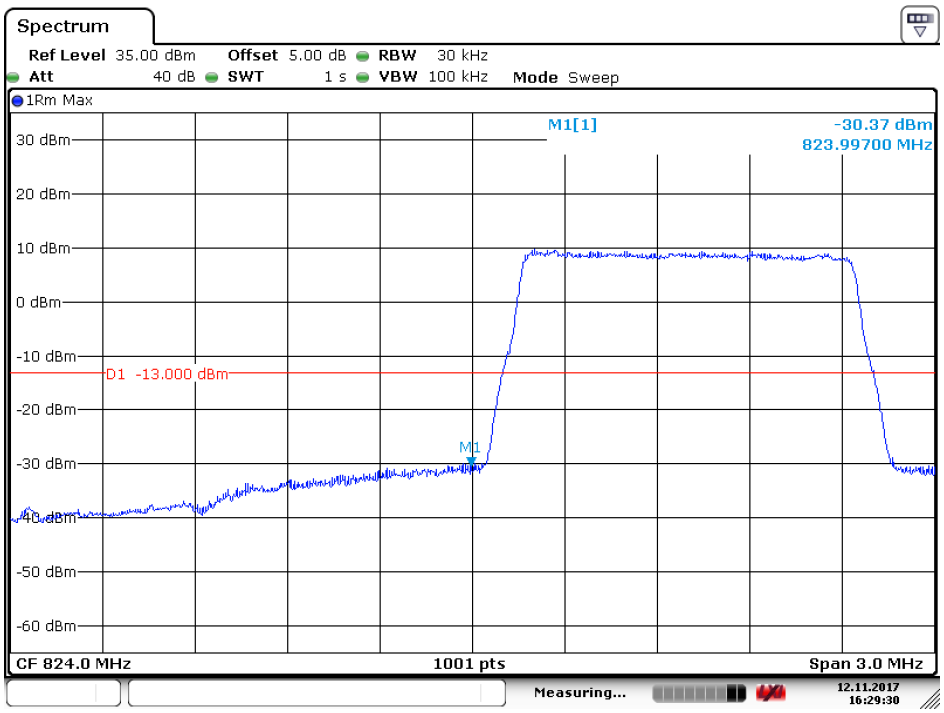
5.1.1.1.1 Test Channel = LCH

5.1.1.1.1.1 Test RB=1RB



Date: 12.NOV.2017 16:30:05

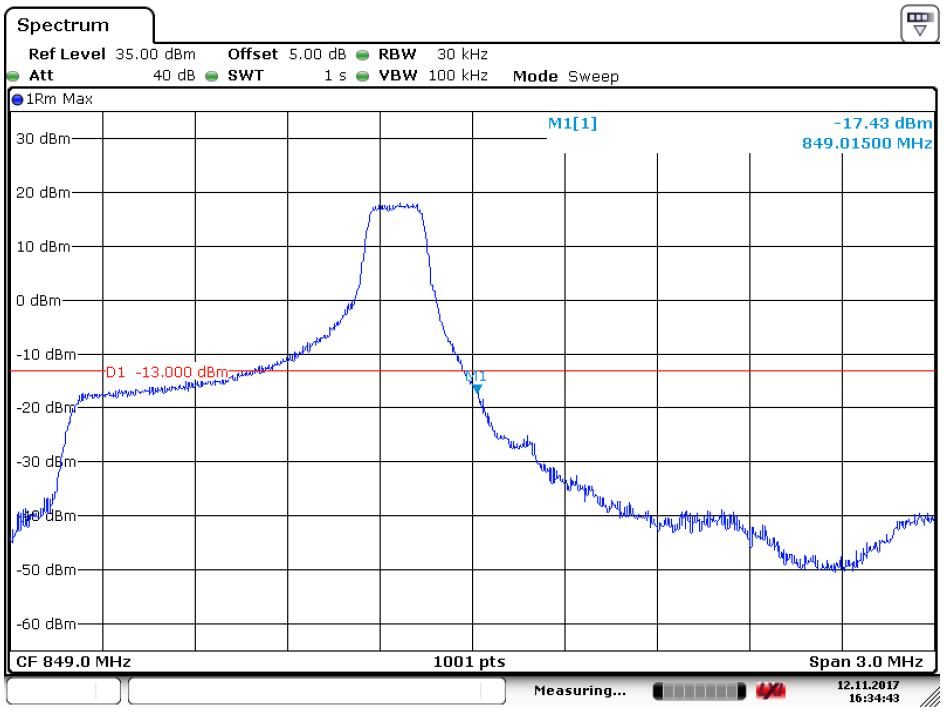
5.1.1.1.1.2 Test RB=6RB



Date: 12.NOV.2017 16:29:30

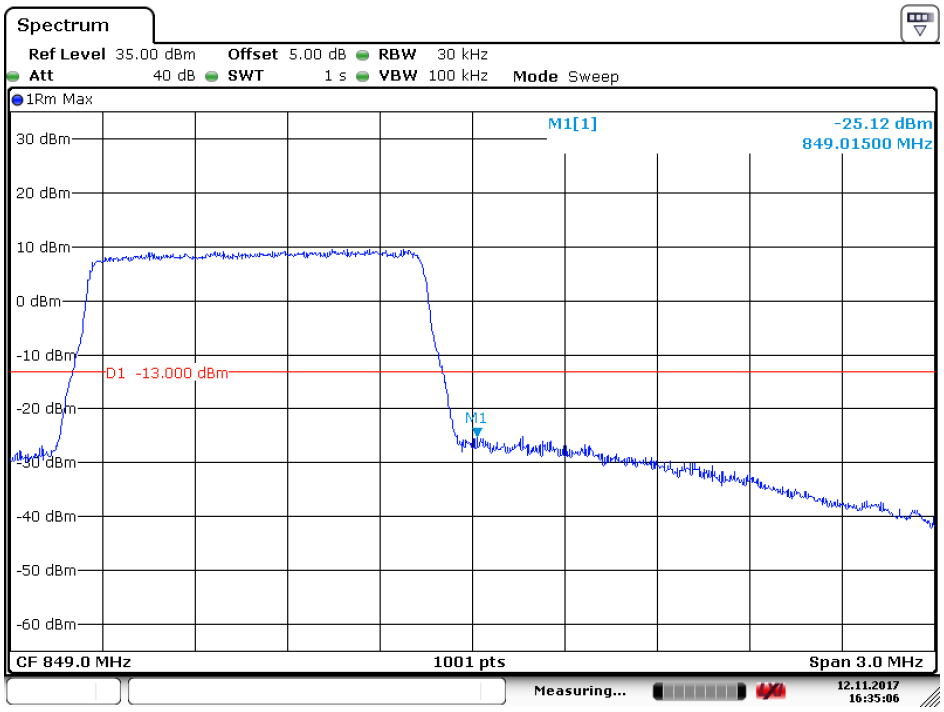
5.1.1.1.2 Test Channel = HCH

5.1.1.1.2.1 Test RB=1RB



Date: 12.NOV.2017 16:34:43

5.1.1.1.2.2 Test RB=6RB

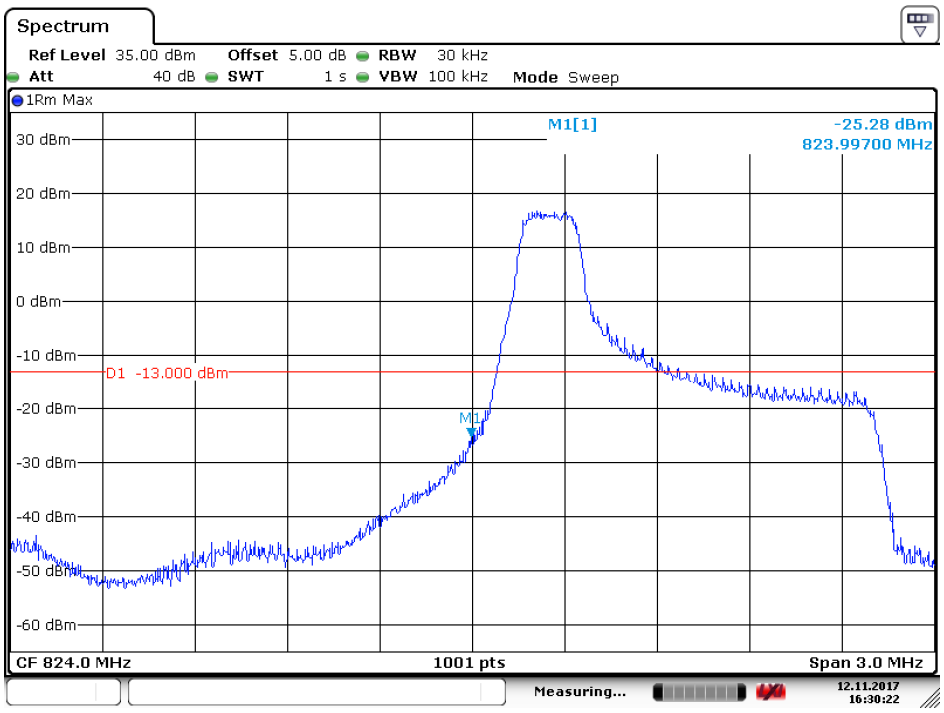


Date: 12.NOV.2017 16:35:07

5.1.1.2 Test Mode = LTE/TM2 1.4MHz

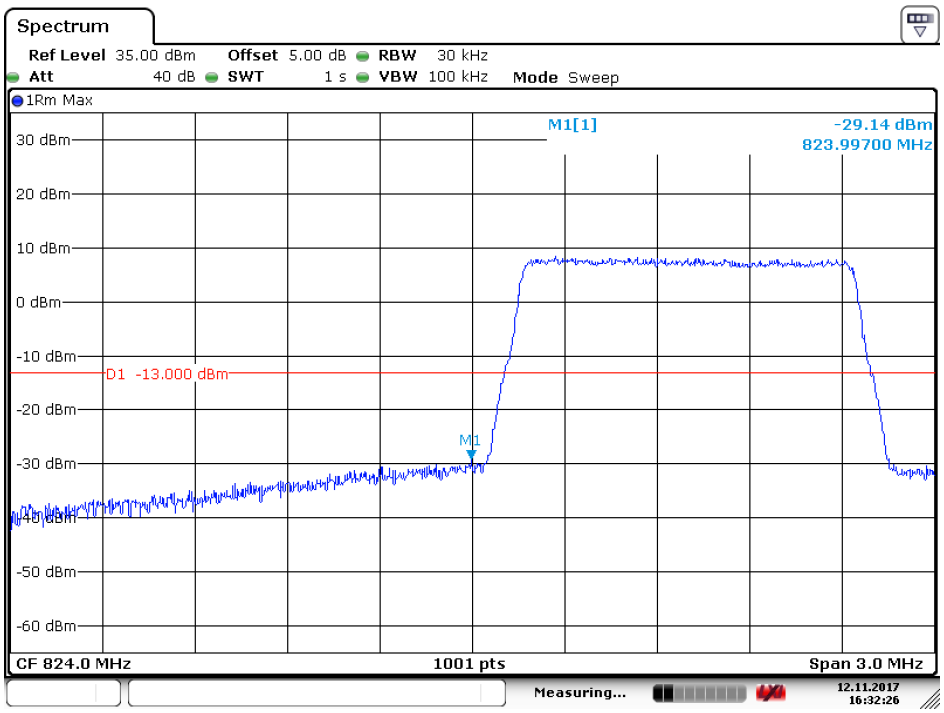
5.1.1.2.1 Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB



Date: 12.NOV.2017 16:30:22

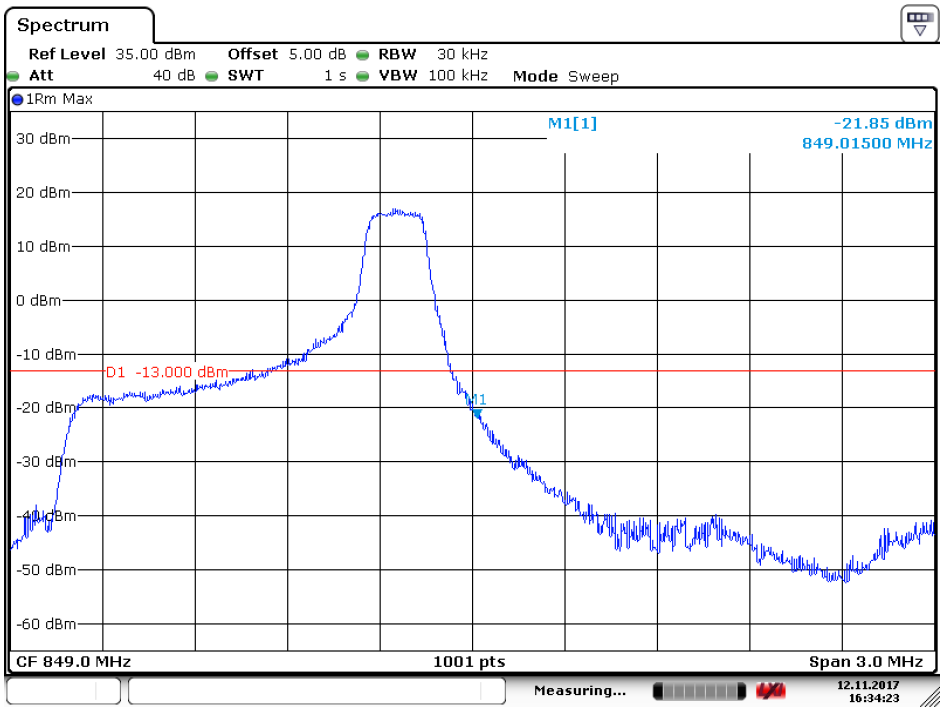
5.1.1.2.1.2 Test RB=6RB



Date: 12.NOV.2017 16:32:27

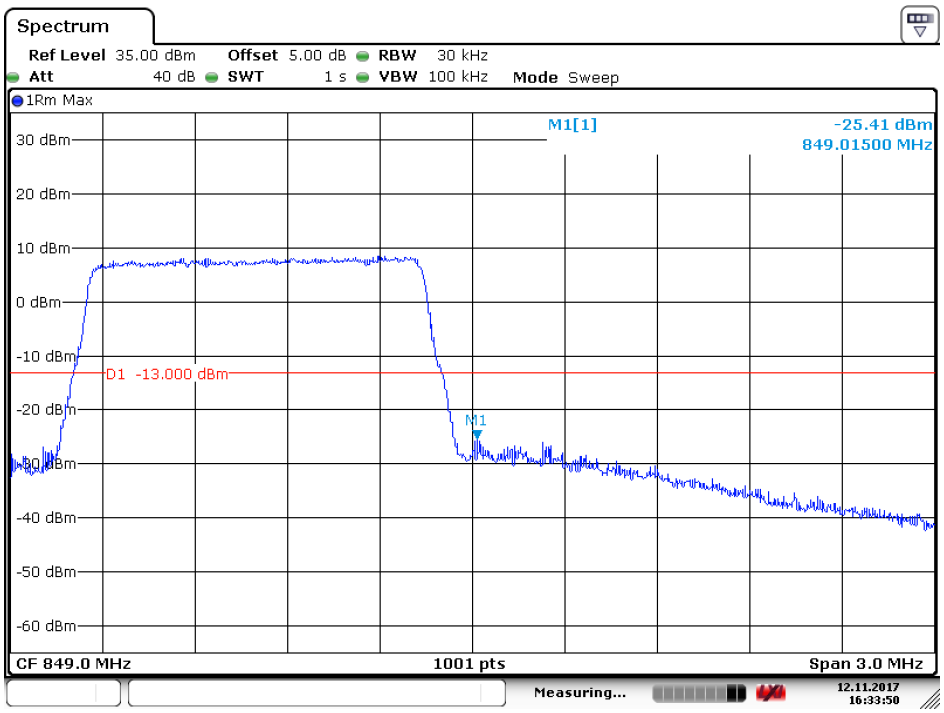
5.1.1.2.2 Test Channel = HCH

5.1.1.2.2.1 Test RB=1RB



Date: 12.NOV.2017 16:34:23

5.1.1.2.2.2 Test RB=6RB

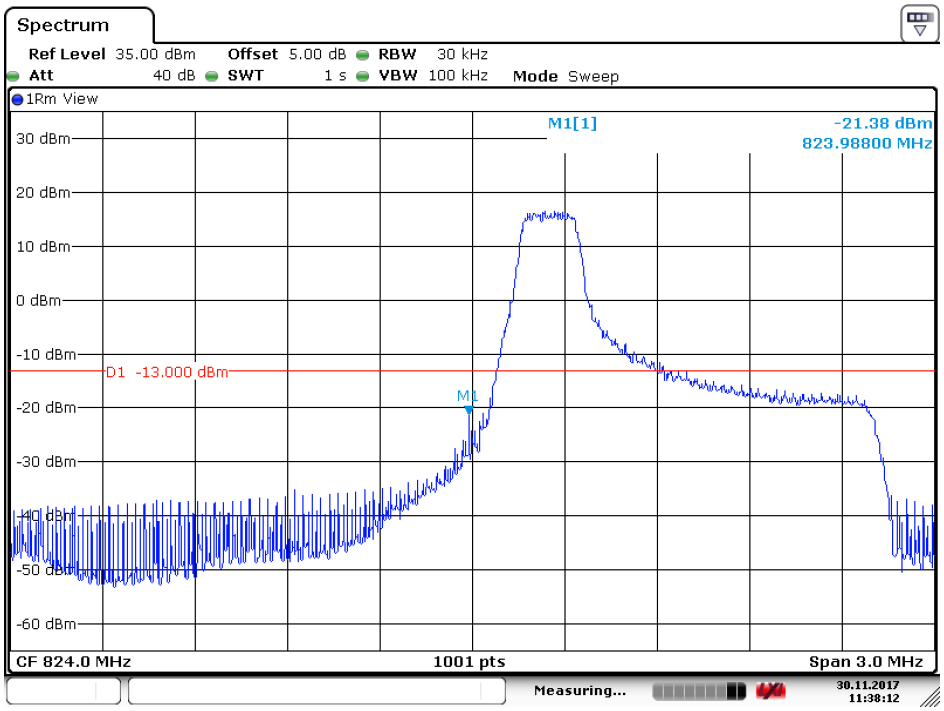


Date: 12.NOV.2017 16:33:51

5.1.1.3 Test Mode = LTE/TM3 1.4MHz

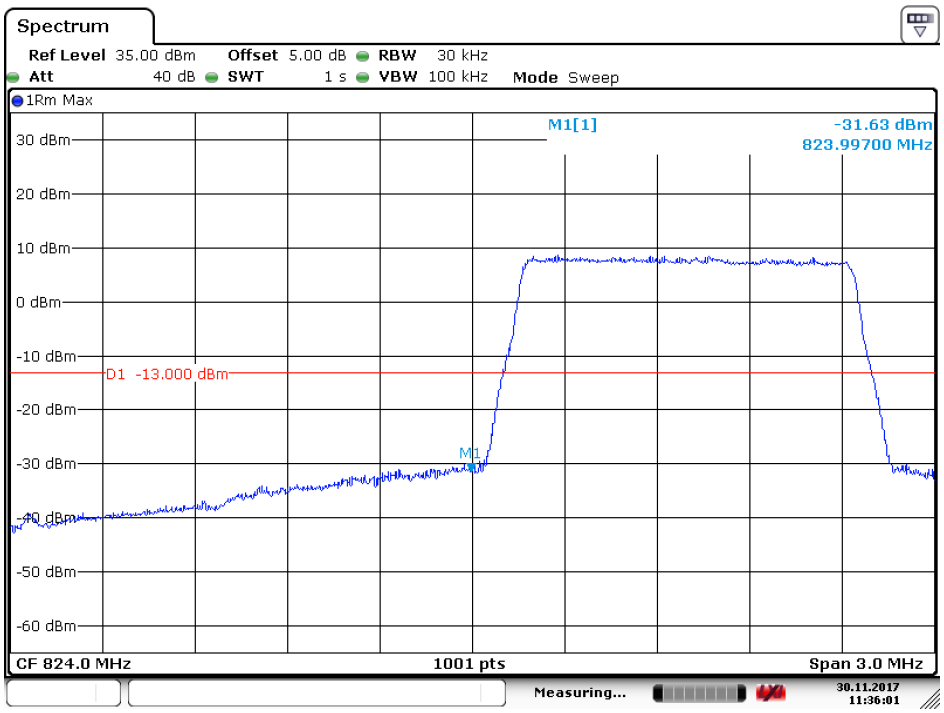
5.1.1.3.1 Test Channel = LCH

5.1.1.3.1.1 Test RB=1RB



Date: 30.NOV.2017 11:38:12

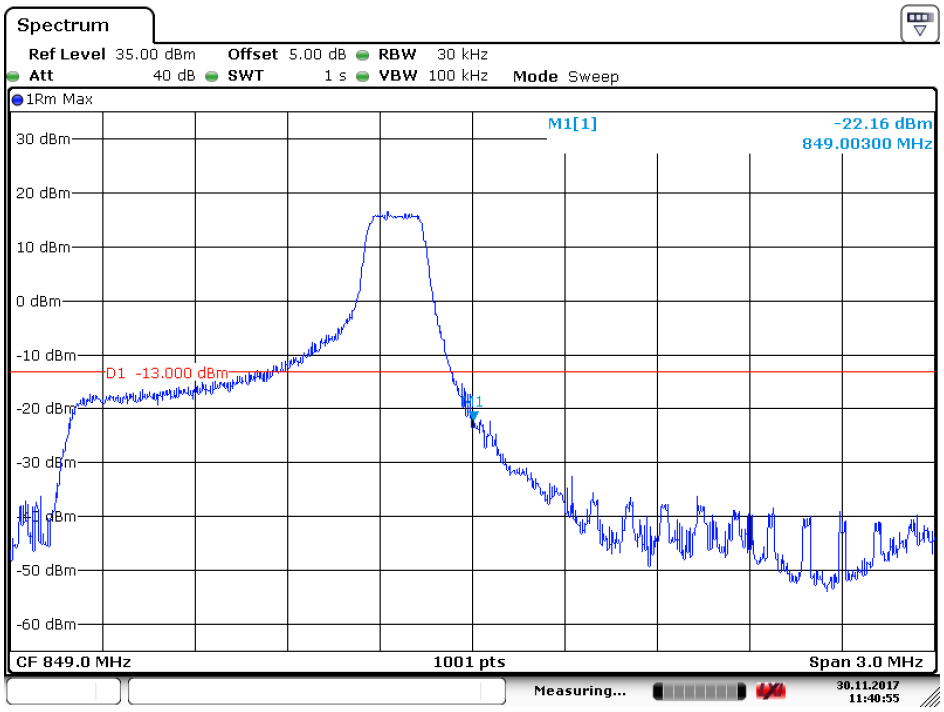
5.1.1.3.1.2 Test RB=6RB



Date: 30.NOV.2017 11:36:01

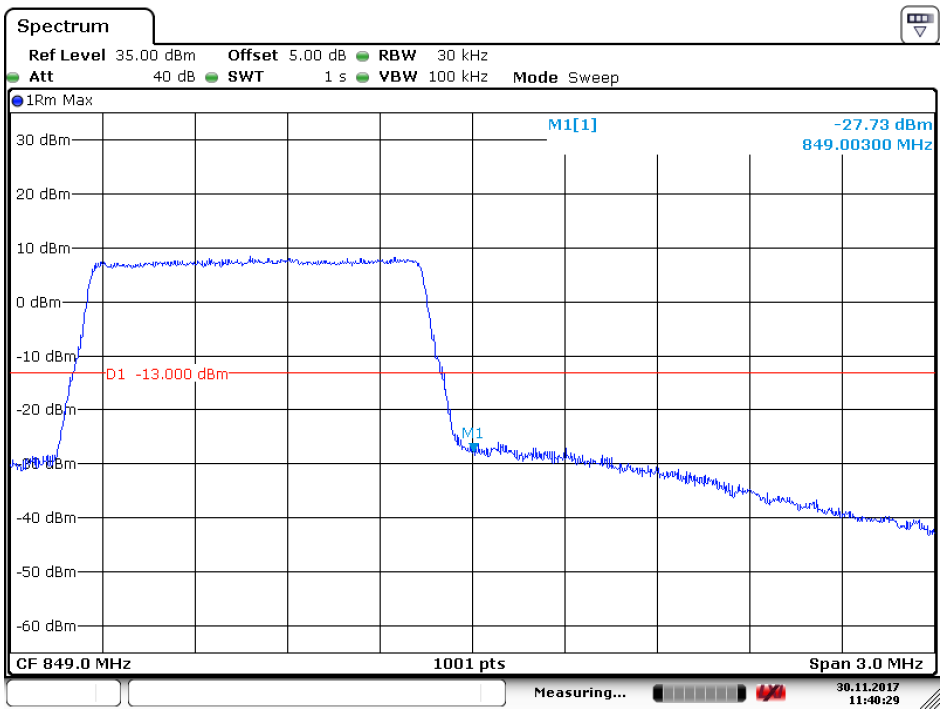
5.1.1.3.1 Test Channel = HCH

5.1.1.3.1.1 Test RB=1RB



Date: 30.NOV.2017 11:40:55

5.1.1.3.1.2 Test RB=6RB

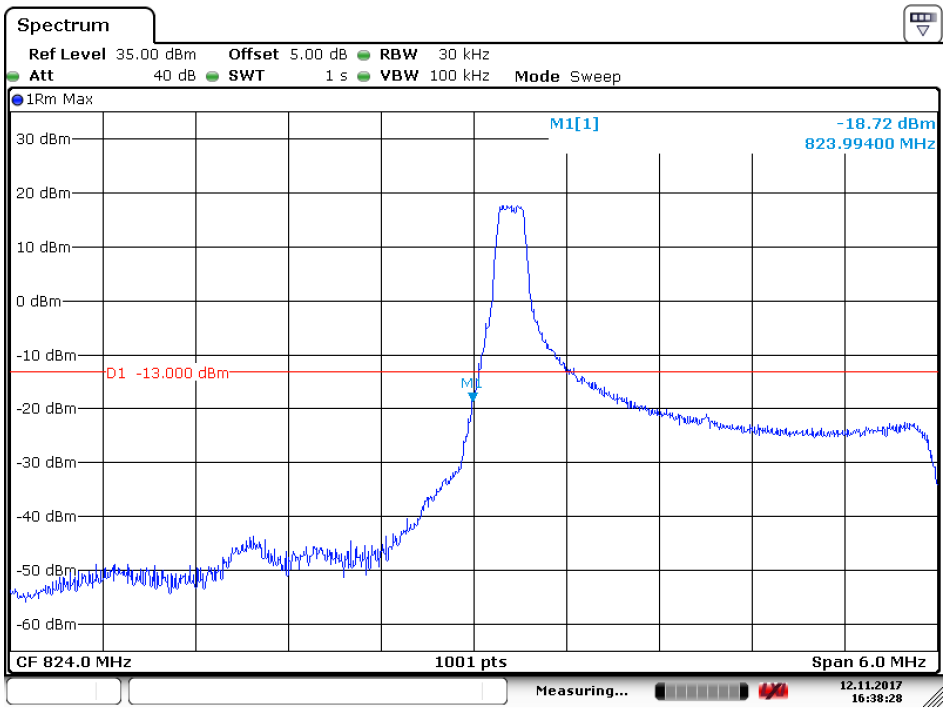


Date: 30.NOV.2017 11:40:29

5.1.1.4 Test Mode = LTE/TM1 3MHz

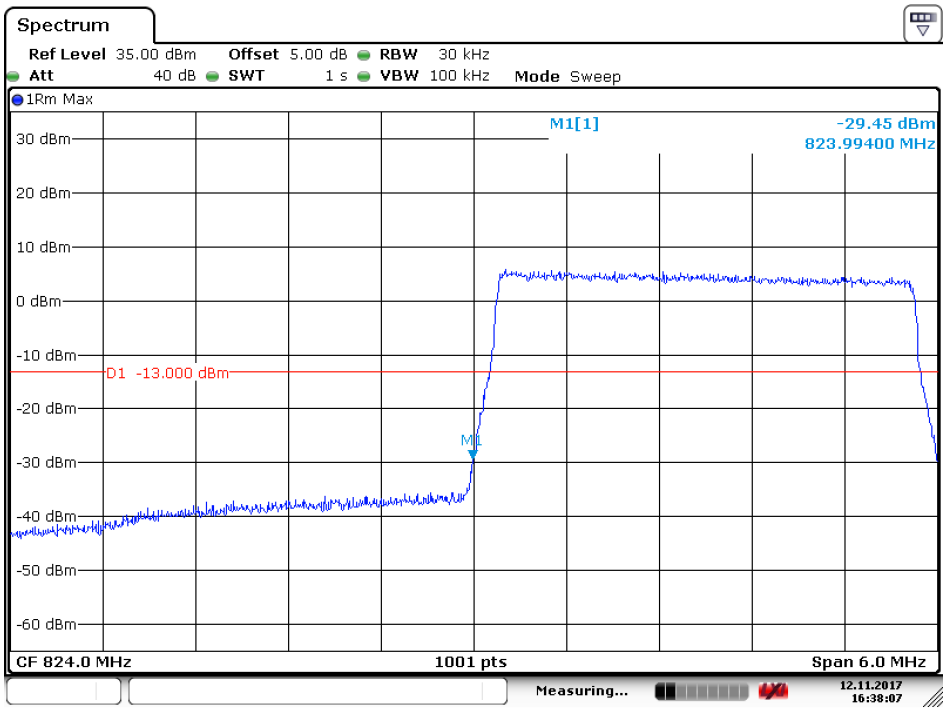
5.1.1.4.1 Test Channel = LCH

5.1.1.4.1.1 Test RB=1RB



Date: 12.NOV.2017 16:38:28

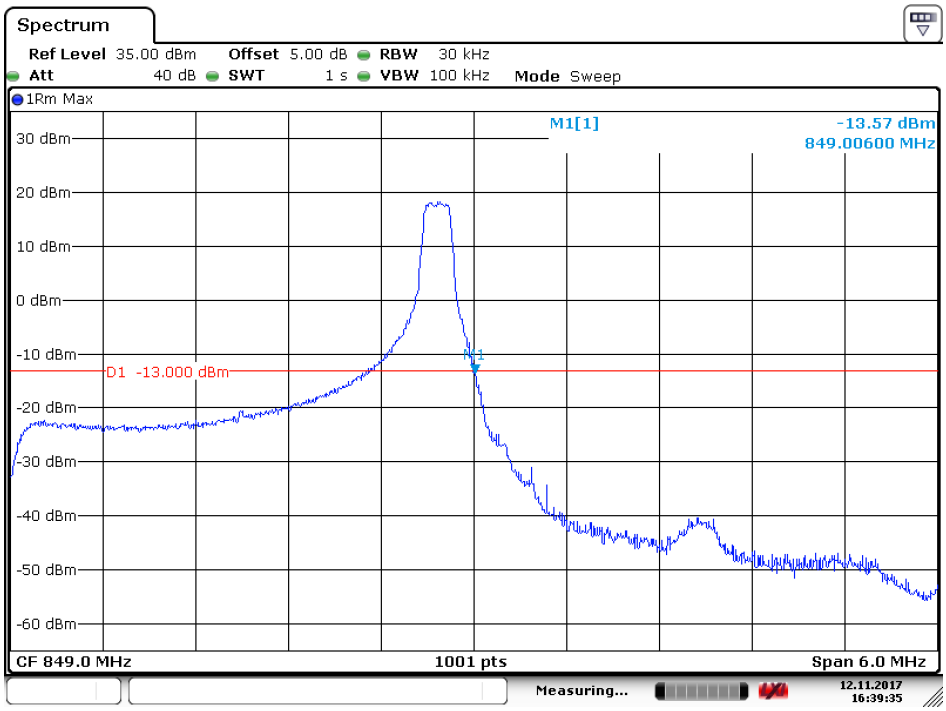
5.1.1.4.1.2 Test RB=15RB



Date: 12.NOV.2017 16:38:08

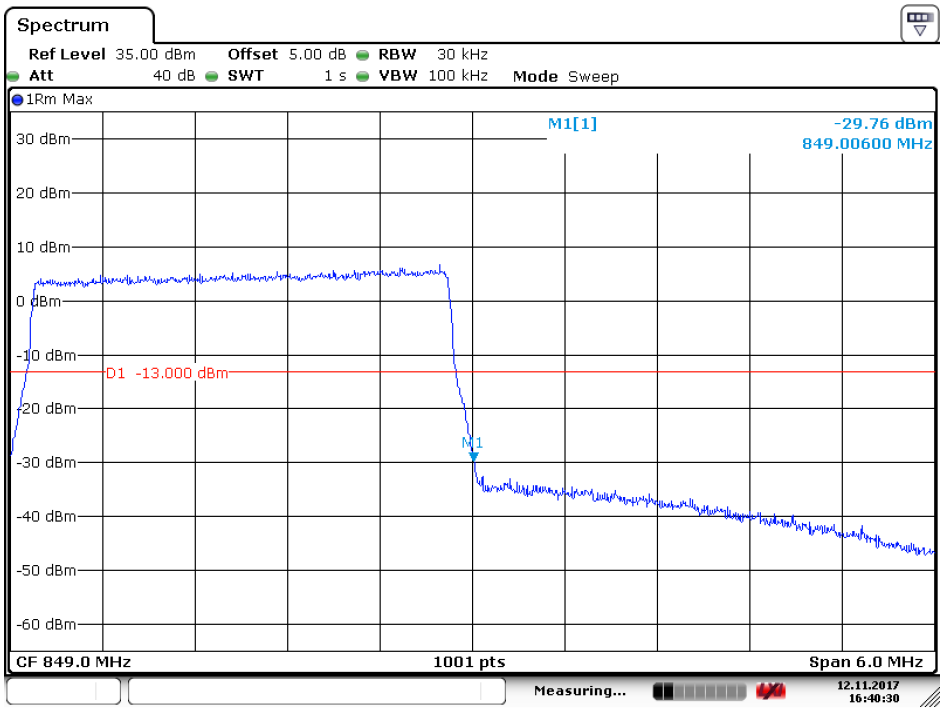
5.1.1.4.2 Test Channel = HCH

5.1.1.4.2.1 Test RB=1RB



Date: 12.NOV.2017 16:39:36

5.1.1.4.2.2 Test RB=15RB

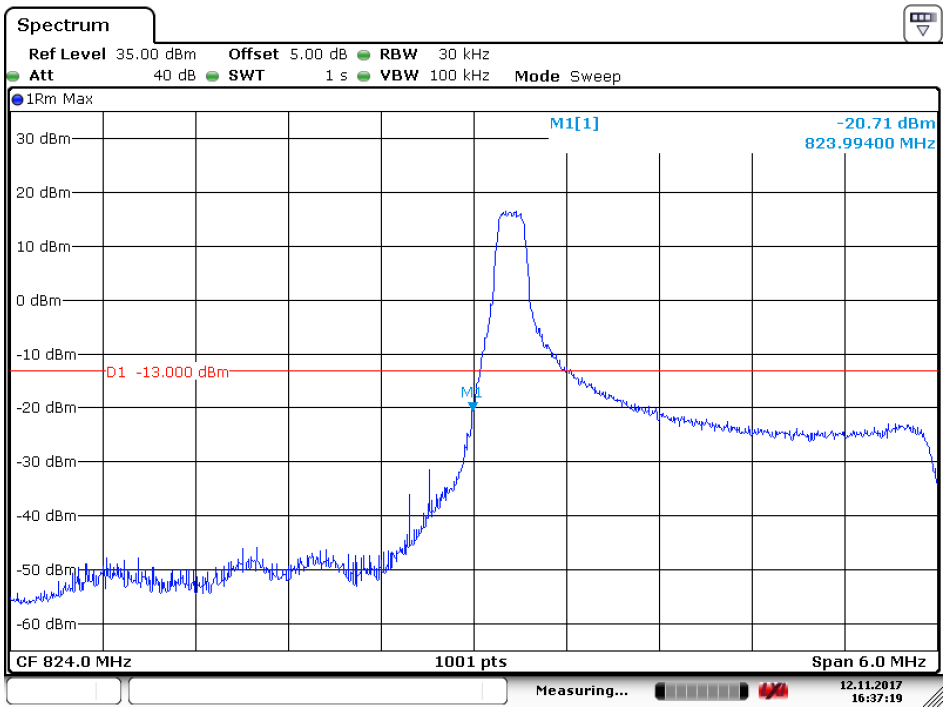


Date: 12.NOV.2017 16:40:31

5.1.1.5 Test Mode = LTE/TM2 3MHz

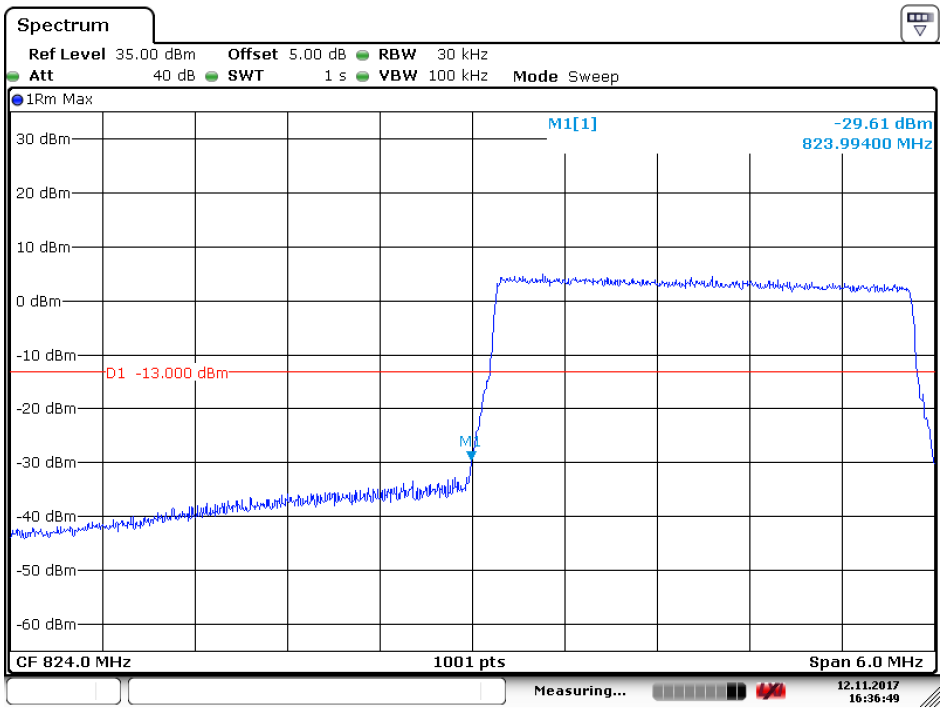
5.1.1.5.1 Test Channel = LCH

5.1.1.5.1.1 Test RB=1RB



Date: 12.NOV.2017 16:37:20

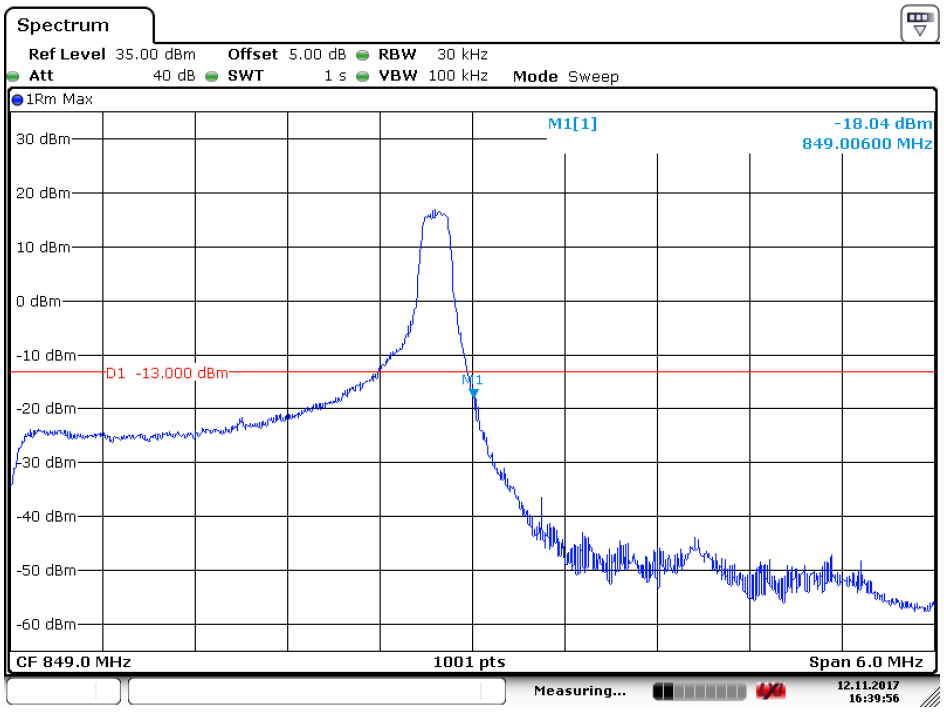
5.1.1.5.1.2 Test RB=15RB



Date: 12.NOV.2017 16:36:49

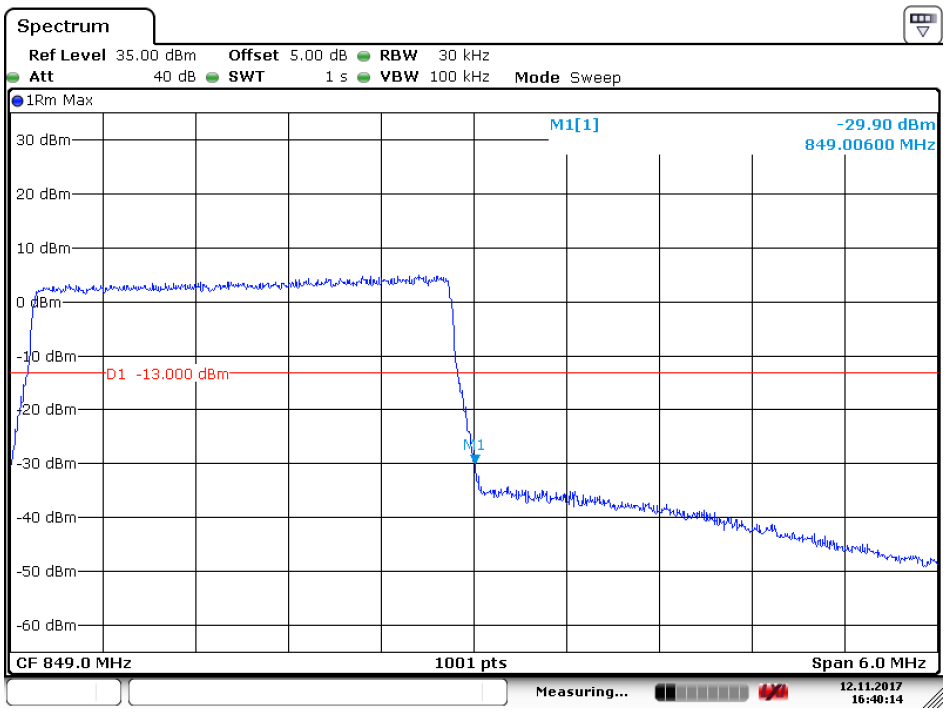
5.1.1.5.2 Test Channel = HCH

5.1.1.5.2.1 Test RB=1RB



Date: 12.NOV.2017 16:39:57

5.1.1.5.3 Test RB=15RB

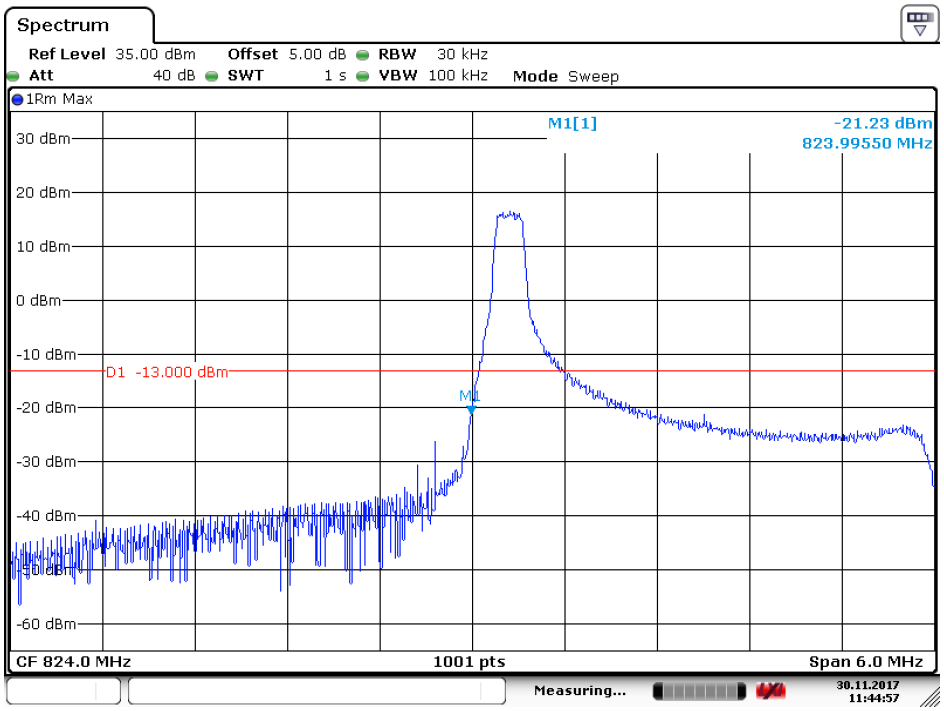


Date: 12.NOV.2017 16:40:14

5.1.1.6 Test Mode = LTE/TM3 3MHz

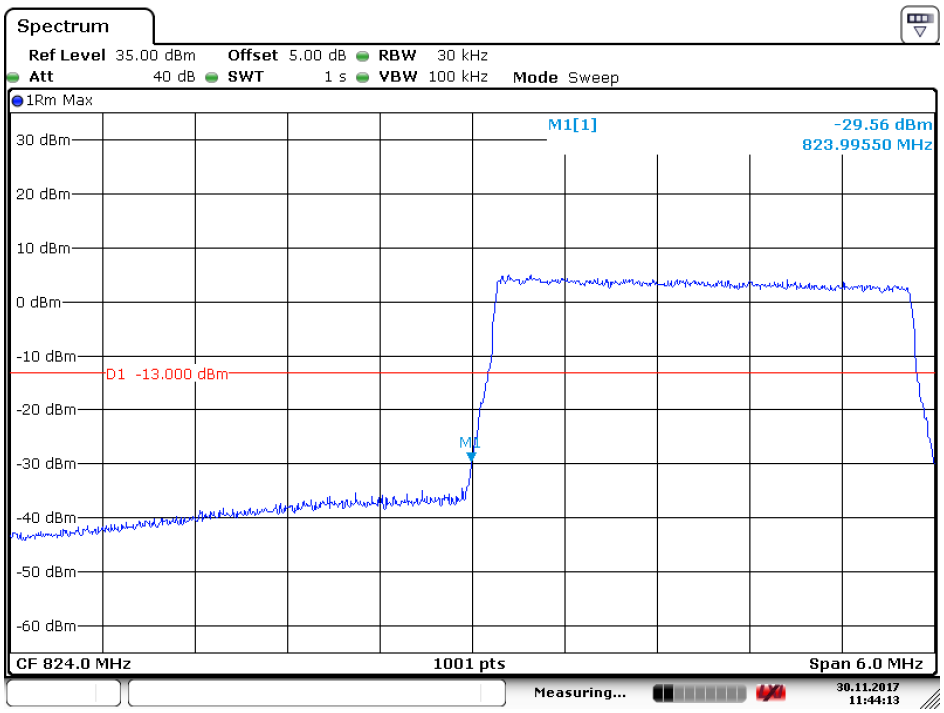
5.1.1.6.1 Test Channel = LCH

5.1.1.6.1.1 Test RB=1RB



Date: 30.NOV.2017 11:44:57

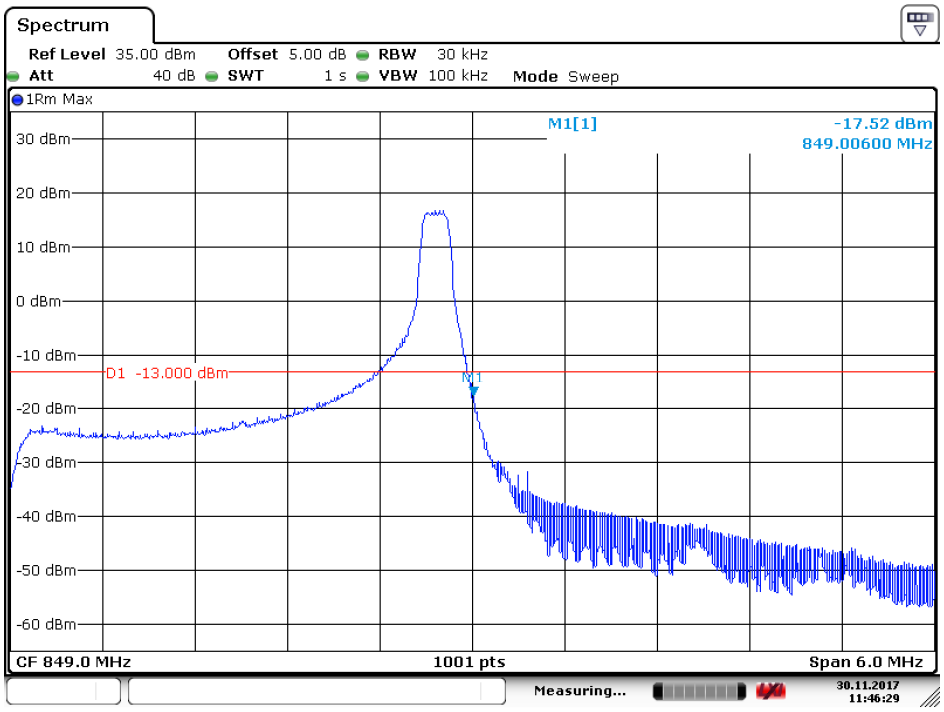
5.1.1.6.1.2 Test RB=15RB



Date: 30.NOV.2017 11:44:13

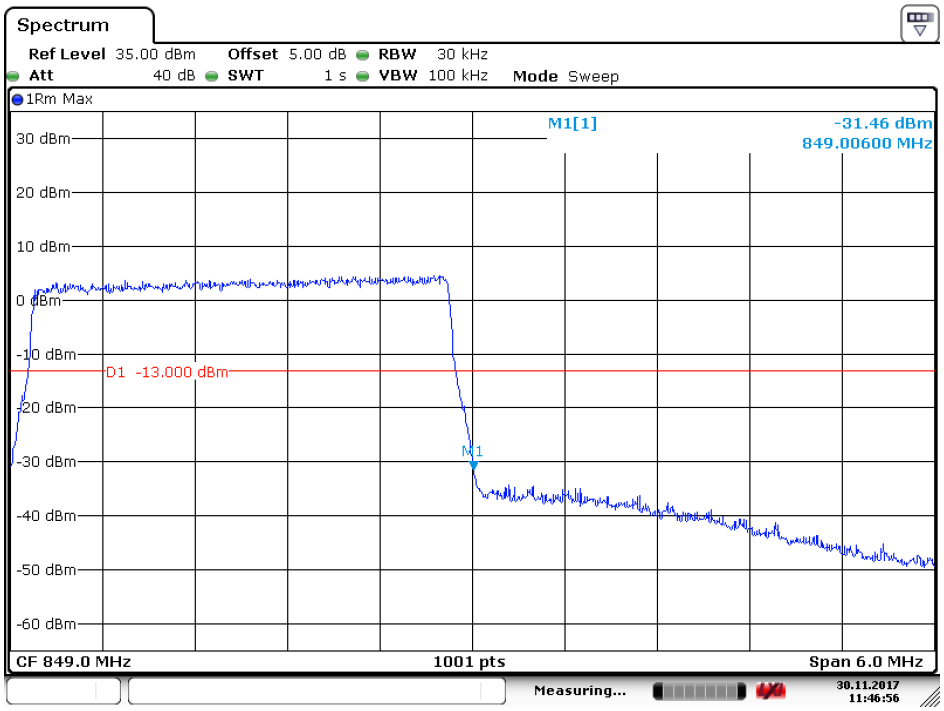
5.1.1.6.1 Test Channel = HCH

5.1.1.6.1.1 Test RB=1RB



Date: 30.NOV.2017 11:46:29

5.1.1.6.1 Test RB=15RB

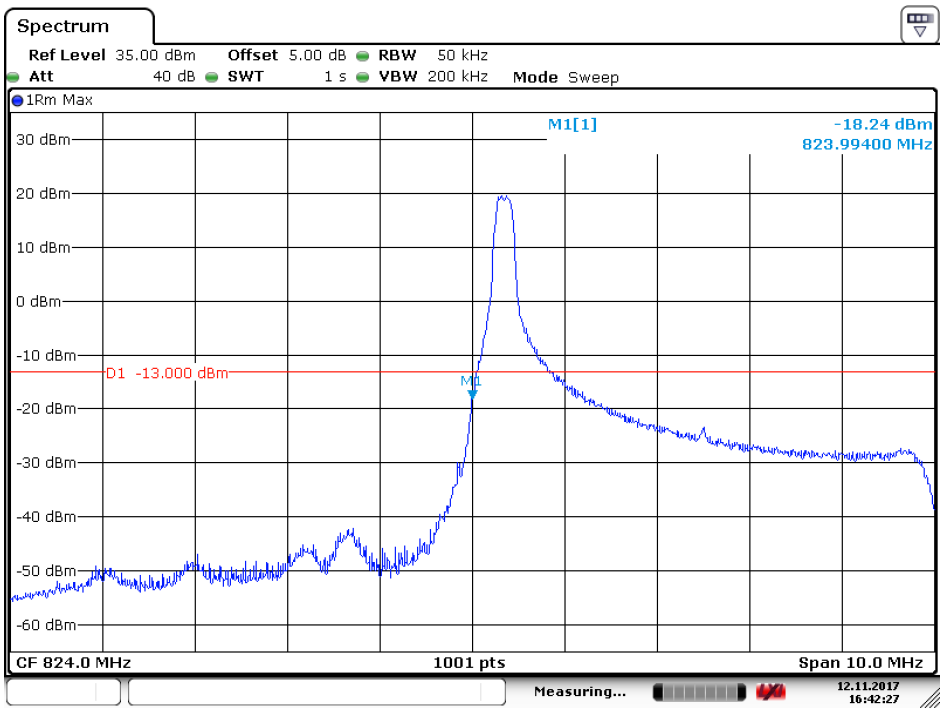


Date: 30.NOV.2017 11:46:56

5.1.1.7 Test Mode = LTE/TM1 5MHz

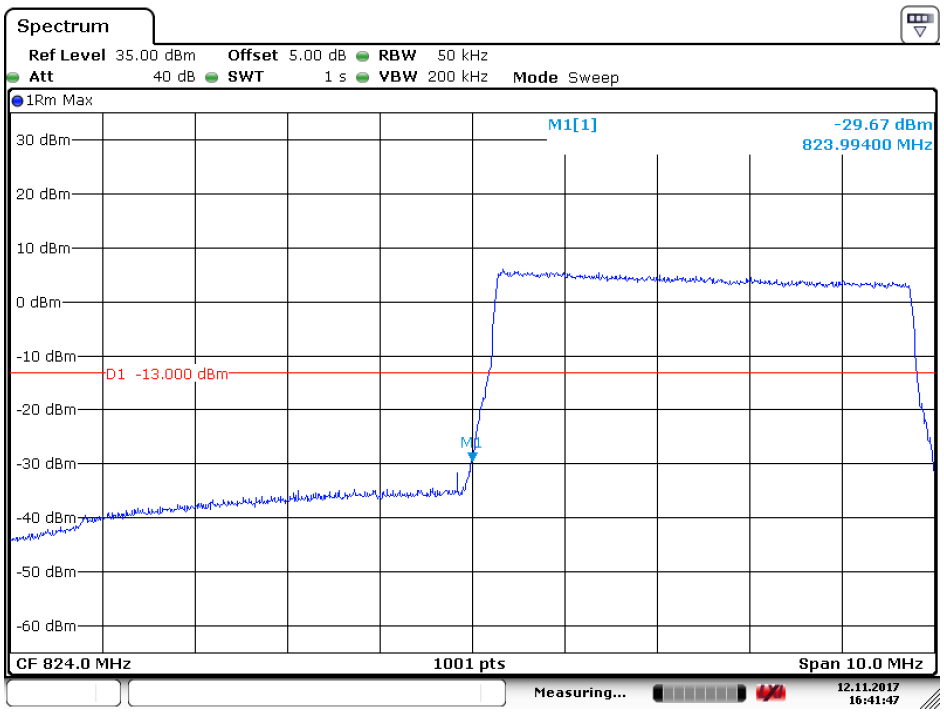
5.1.1.7.1 Test Channel = LCH

5.1.1.7.1.1 Test RB=1RB



Date: 12.NOV.2017 16:42:27

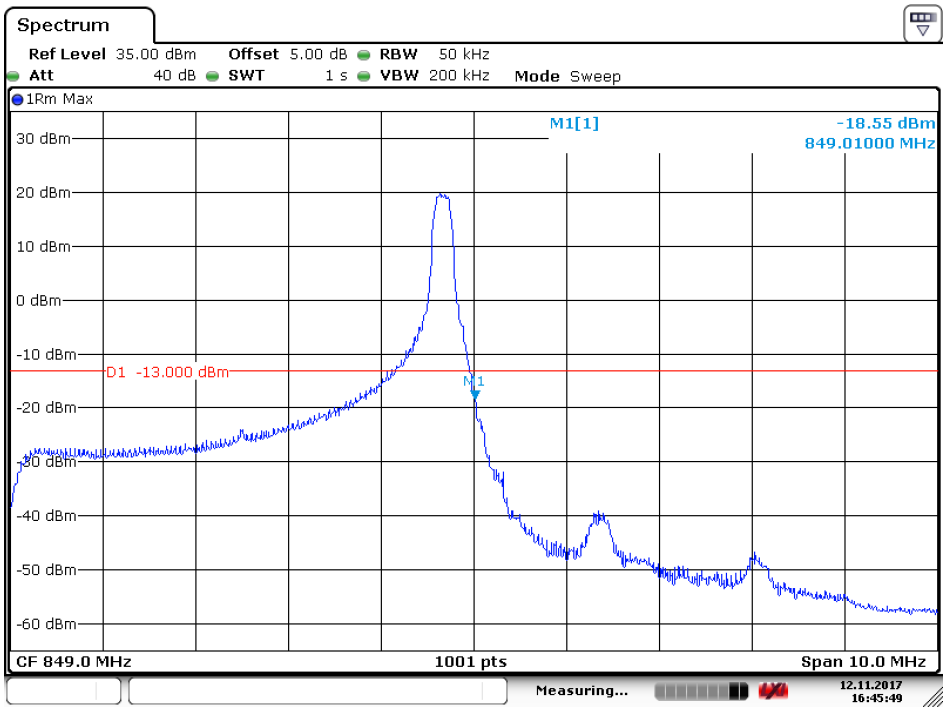
5.1.1.7.1.2 Test RB=25RB



Date: 12.NOV.2017 16:41:47

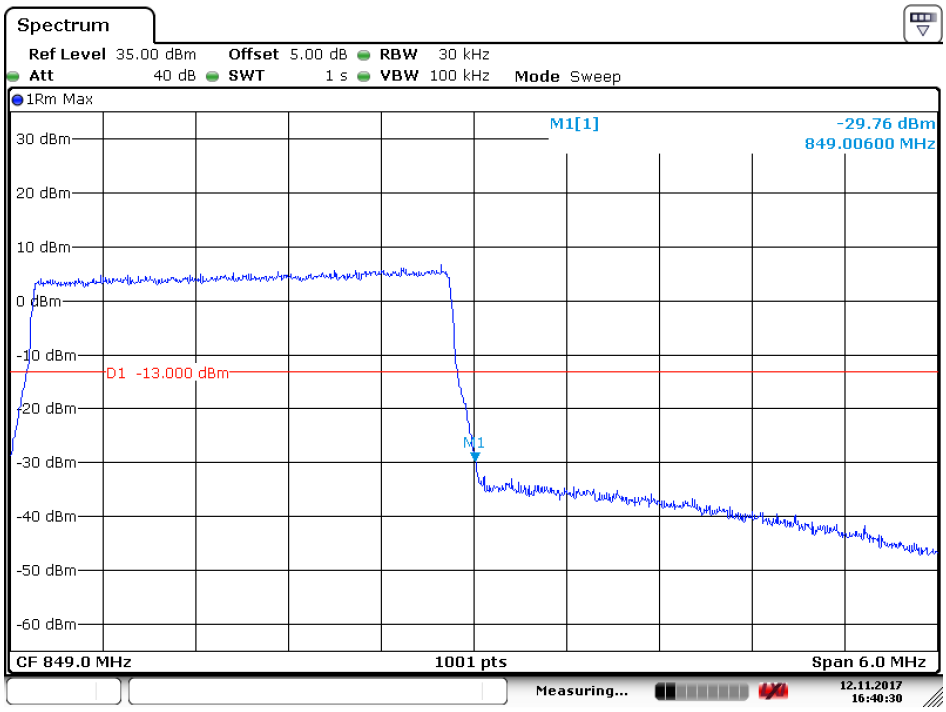
5.1.1.7.2 Test Channel = HCH

5.1.1.7.2.1 Test RB=1RB



Date: 12.NOV.2017 16:45:50

5.1.1.7.2.2 Test RB=25RB

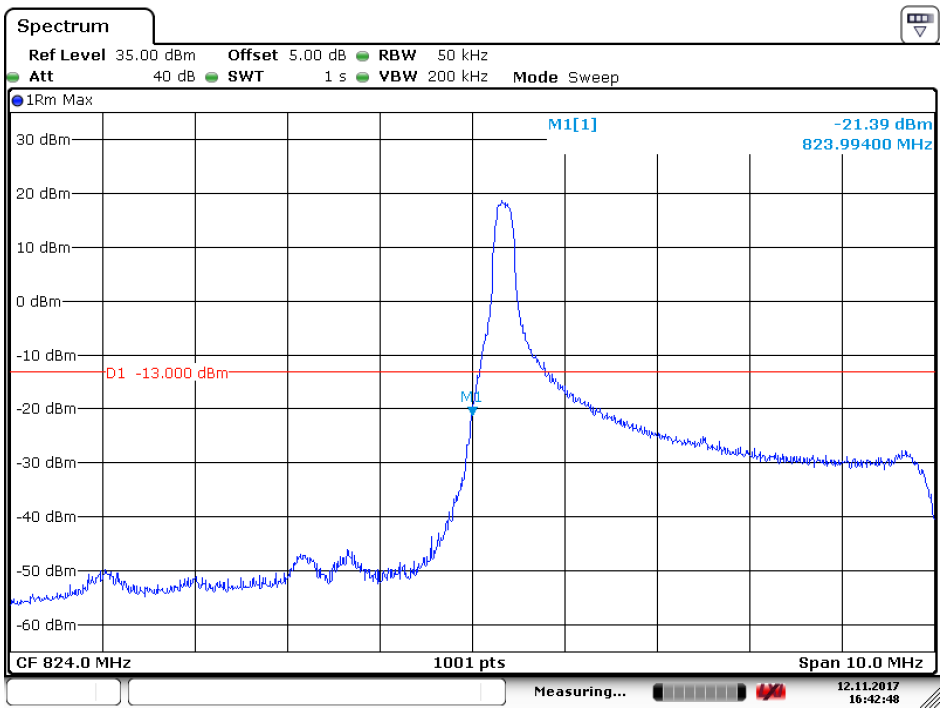


Date: 12.NOV.2017 16:40:31

5.1.1.8 Test Mode = LTE/TM2 5MHz

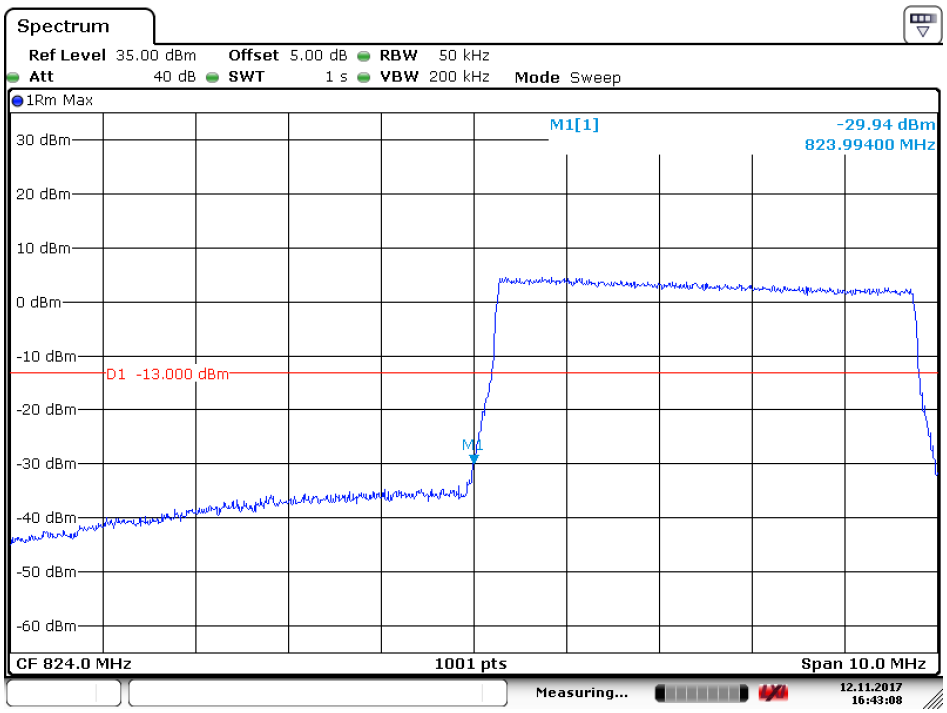
5.1.1.8.1 Test Channel = LCH

5.1.1.8.1.1 Test RB=1RB



Date: 12.NOV.2017 16:42:48

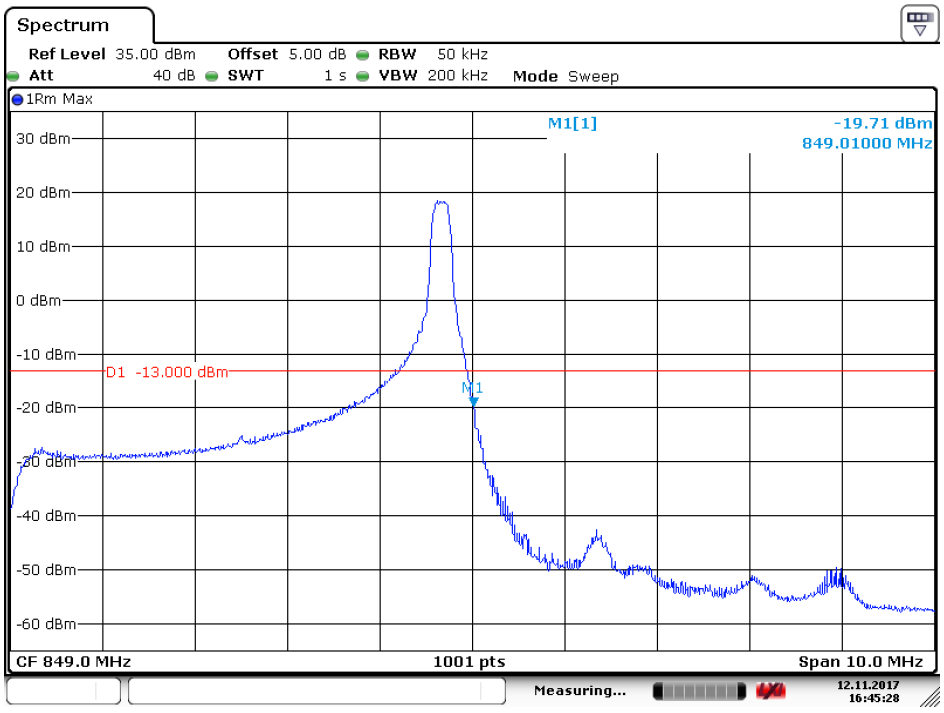
5.1.1.8.1.2 Test RB=25RB



Date: 12.NOV.2017 16:43:09

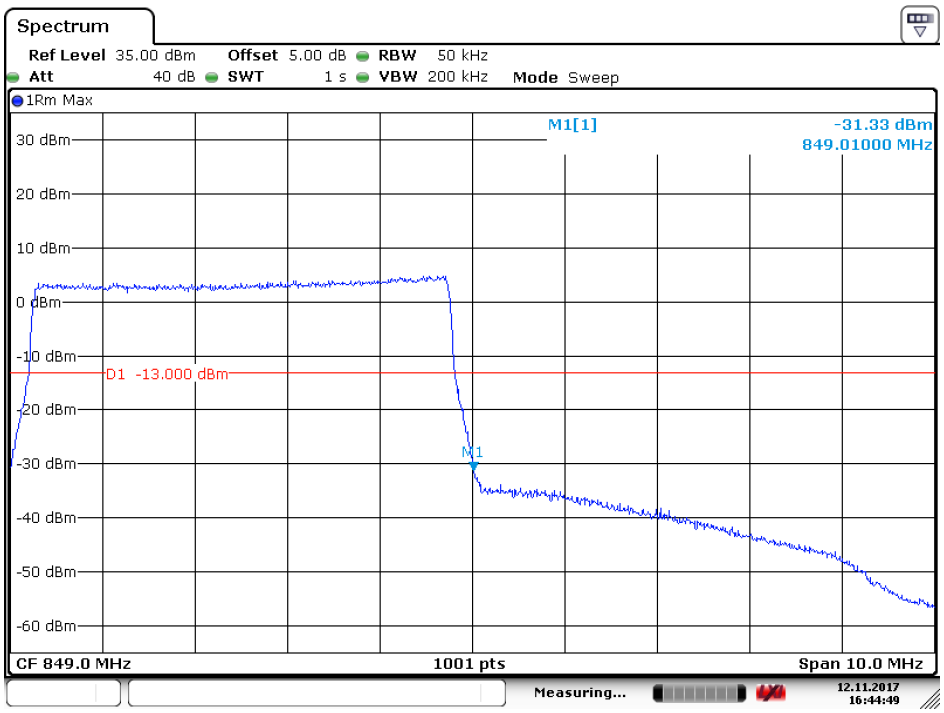
5.1.1.8.2 Test Channel = HCH

5.1.1.8.2.1 Test RB=1RB



Date: 12.NOV.2017 16:45:29

5.1.1.8.2.2 Test RB=25RB

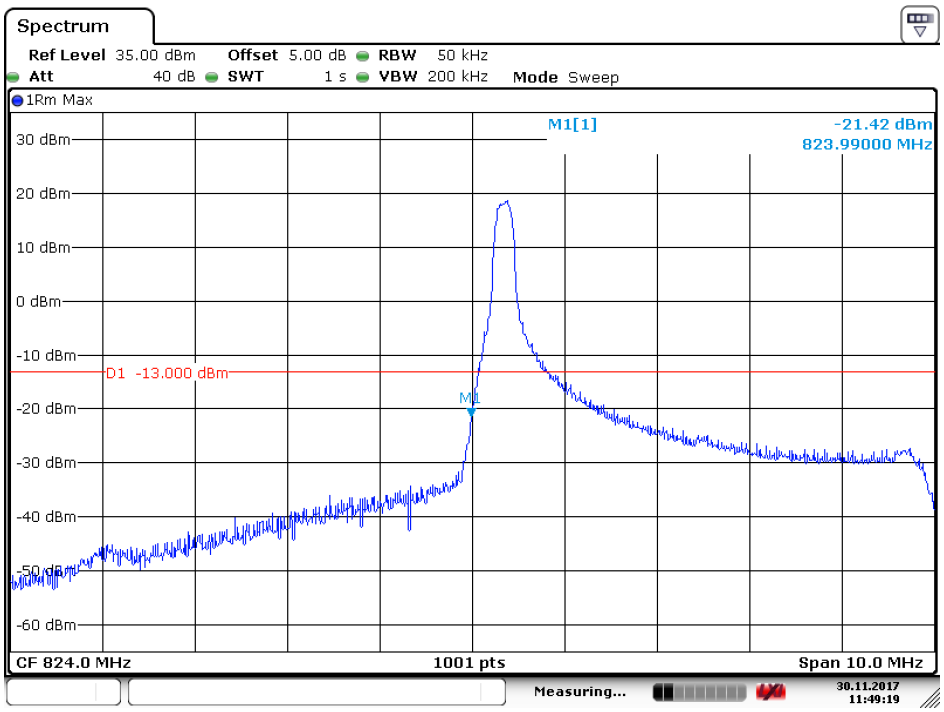


Date: 12.NOV.2017 16:44:49

5.1.1.9 Test Mode = LTE/TM3 5MHz

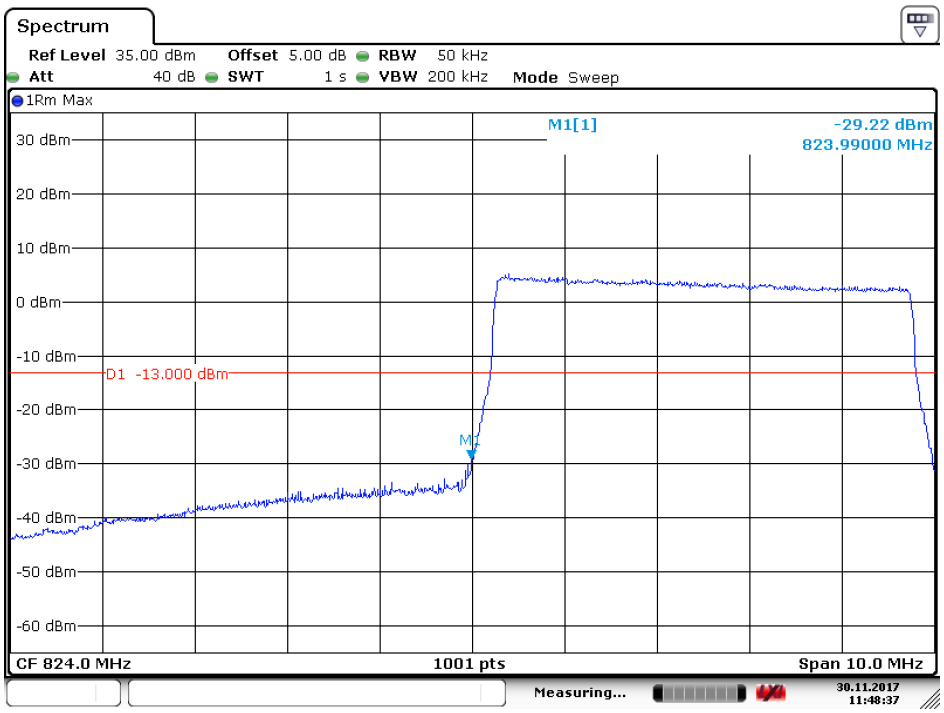
5.1.1.9.1 Test Channel = LCH

5.1.1.9.1.1 Test RB=1RB



Date: 30.NOV.2017 11:49:20

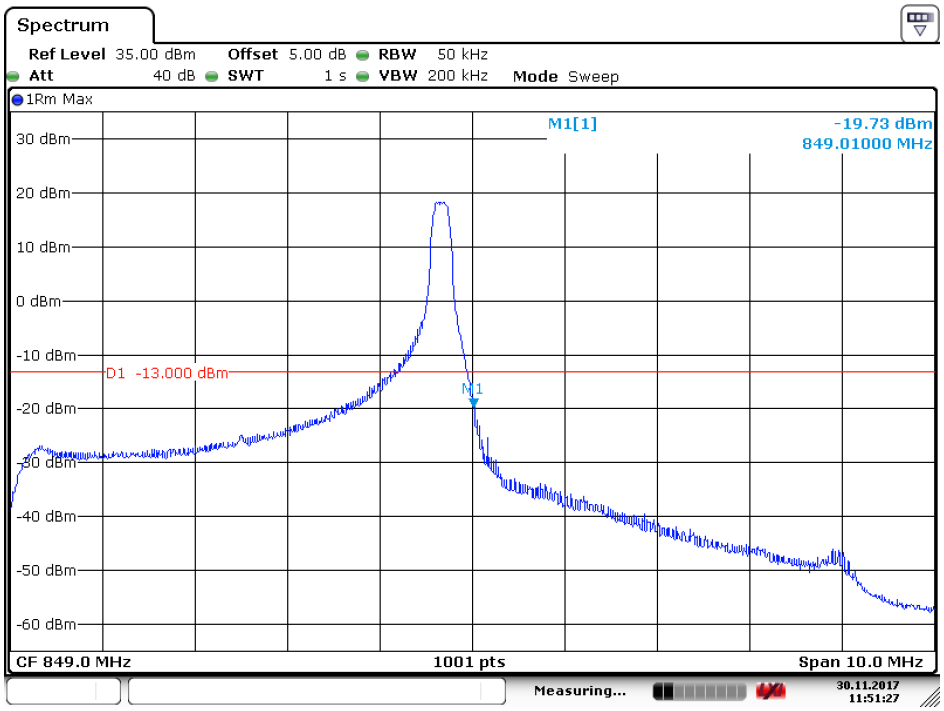
5.1.1.9.1.2 Test RB=25RB



Date: 30.NOV.2017 11:48:37

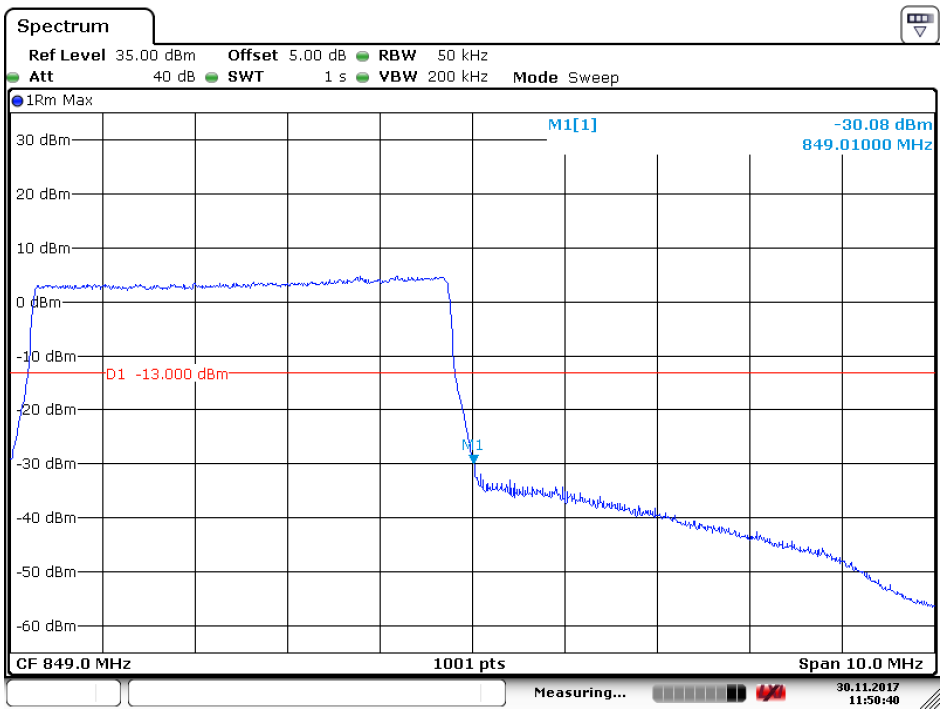
5.1.1.9.1 Test Channel = HCH

5.1.1.9.1.1 Test RB=1RB



Date: 30.NOV.2017 11:51:27

5.1.1.9.1.2 Test RB=25RB

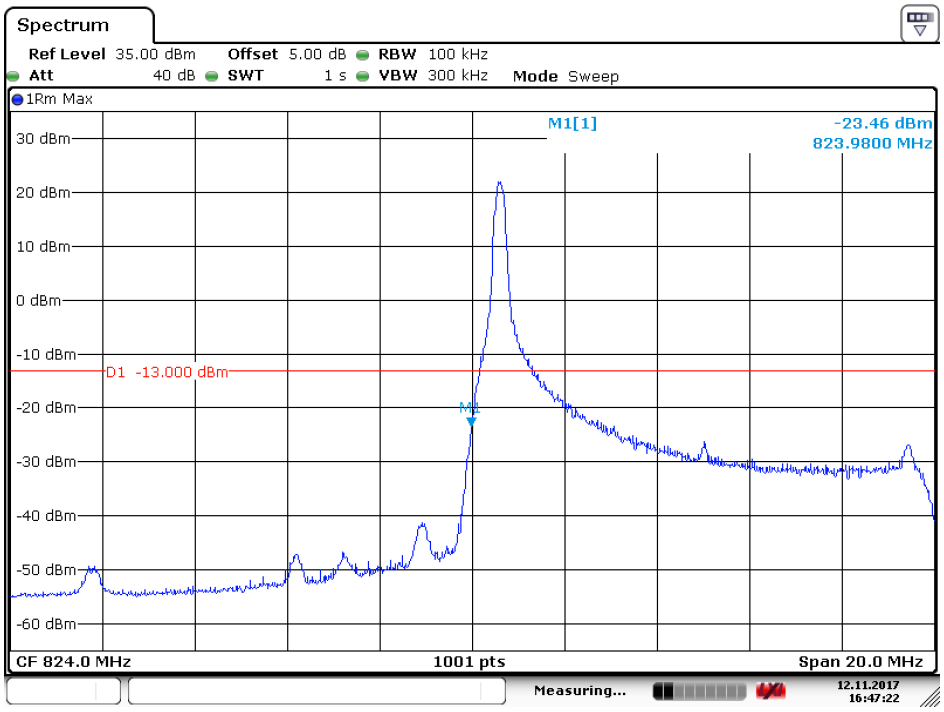


Date: 30.NOV.2017 11:50:41

5.1.1.10 Test Mode = LTE/TM1 10MHz

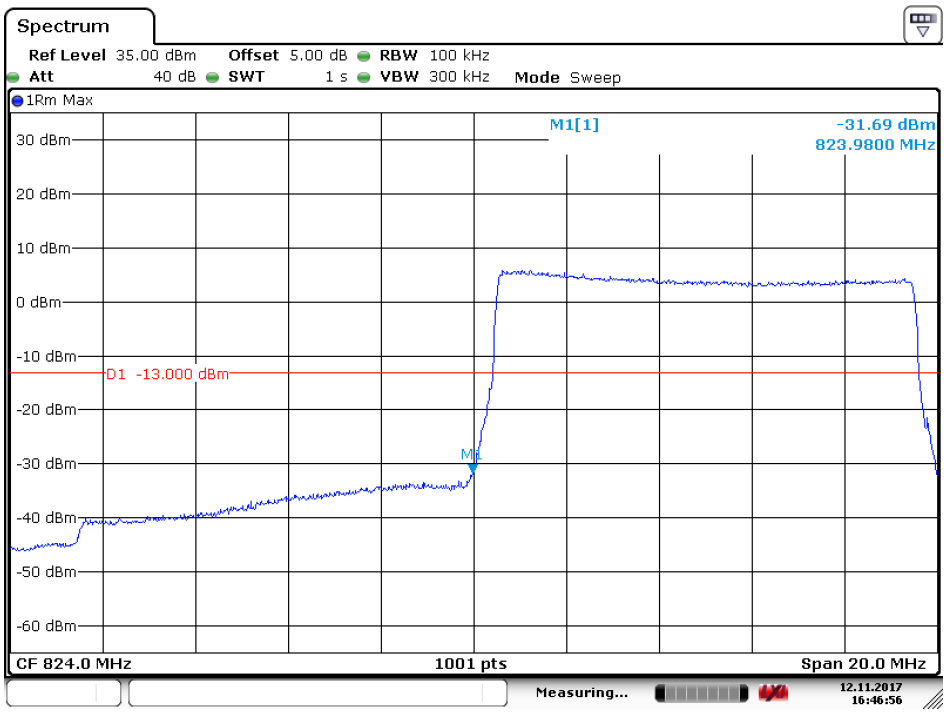
5.1.1.10.1 Test Channel = LCH

5.1.1.10.1.1 Test RB=1RB



Date: 12.NOV.2017 16:47:22

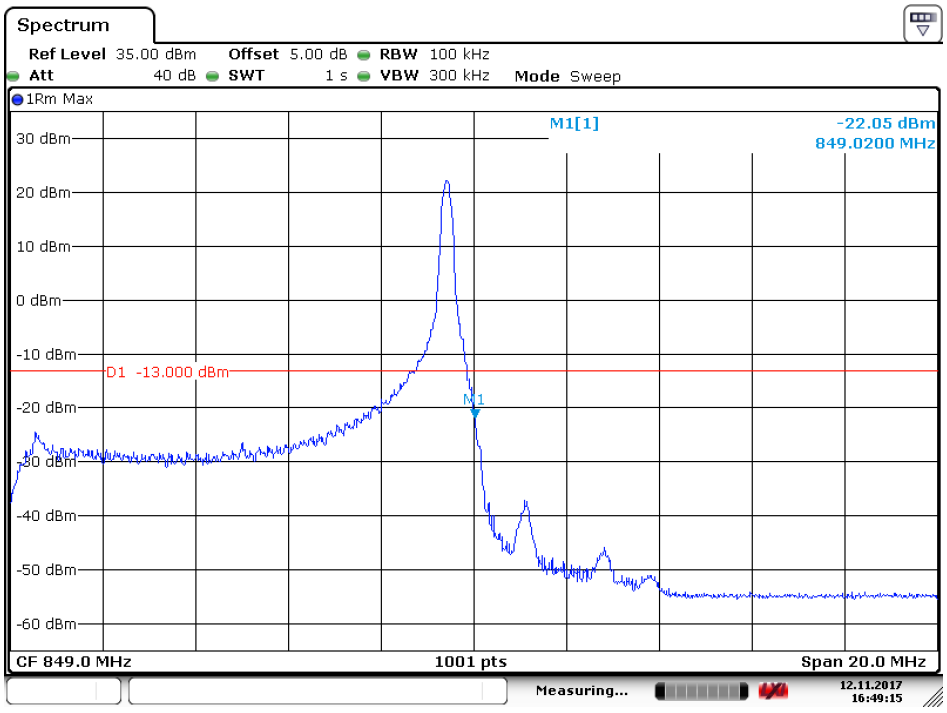
5.1.1.10.1.2 Test RB=50RB



Date: 12.NOV.2017 16:46:57

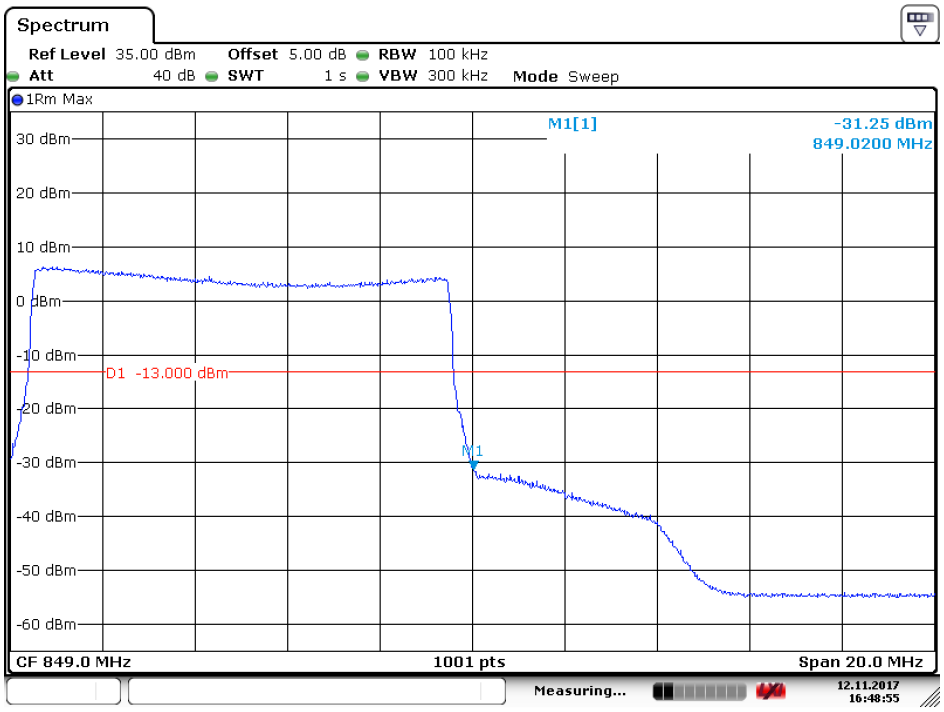
5.1.1.10.2 Test Channel = HCH

5.1.1.10.2.1 Test RB=1RB



Date: 12.NOV.2017 16:49:16

5.1.1.10.2.2 Test RB=50RB

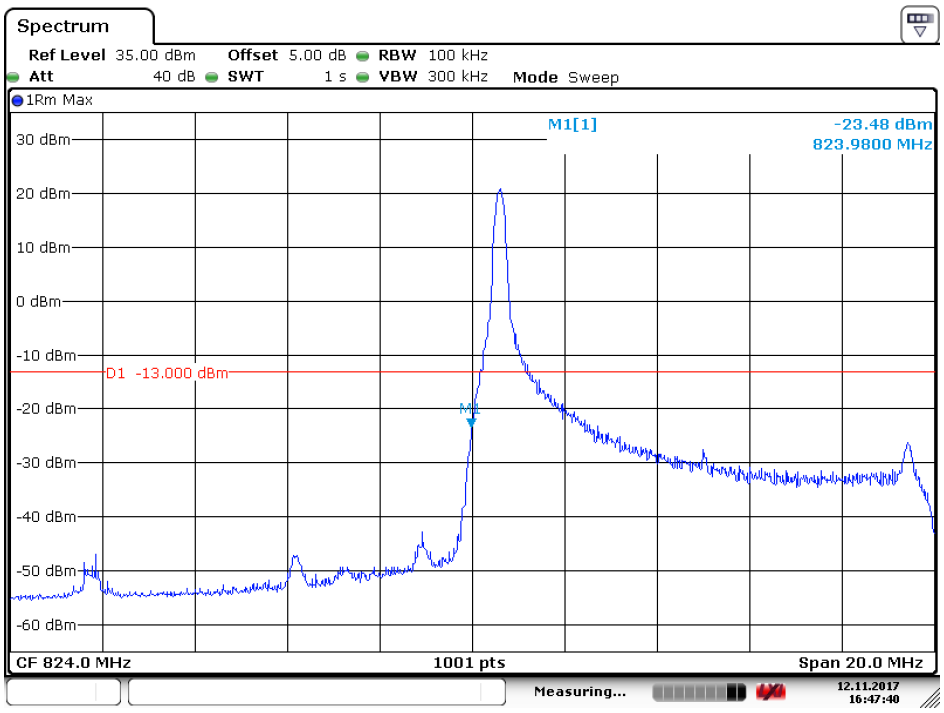


Date: 12.NOV.2017 16:48:55

5.1.1.11 Test Mode = LTE/TM2 10MHz

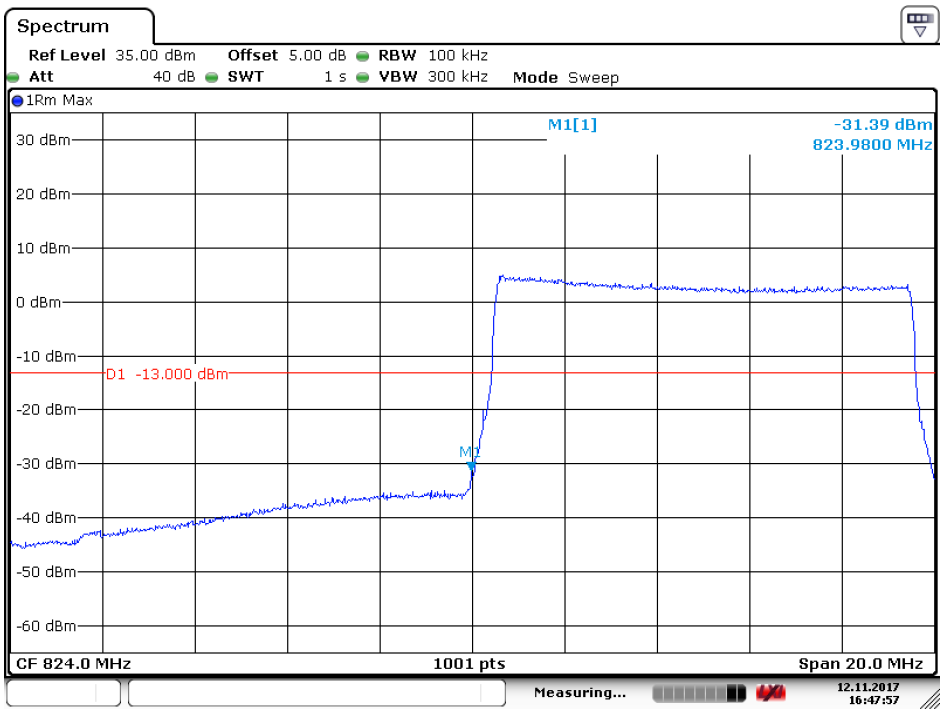
5.1.1.11.1 Test Channel = LCH

5.1.1.11.1.1 Test RB=1RB



Date: 12.NOV.2017 16:47:40

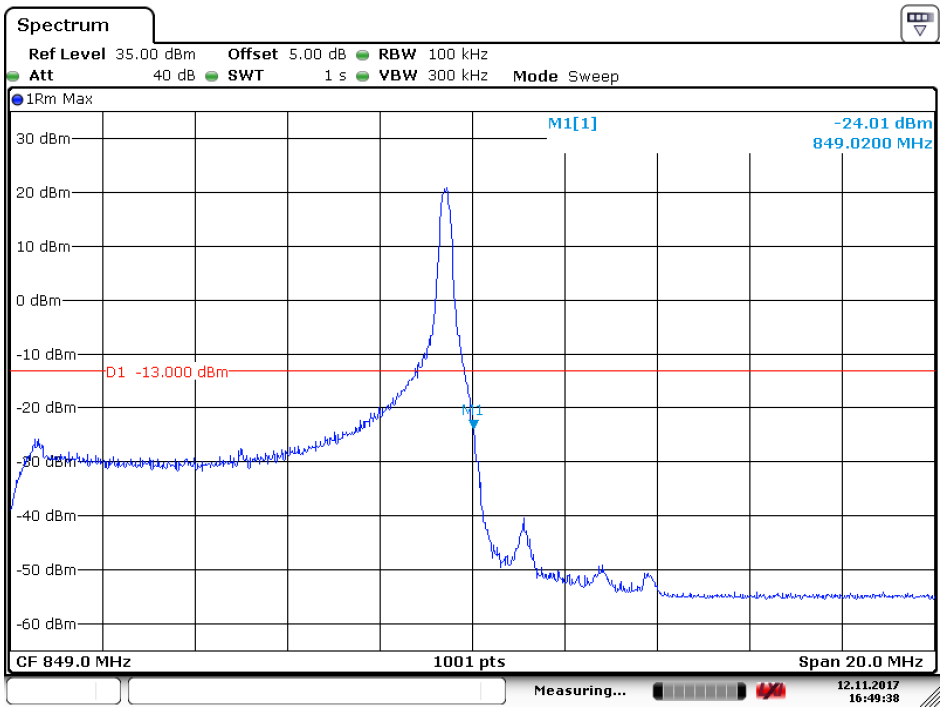
5.1.1.11.1.2 Test RB=50RB



Date: 12.NOV.2017 16:47:57

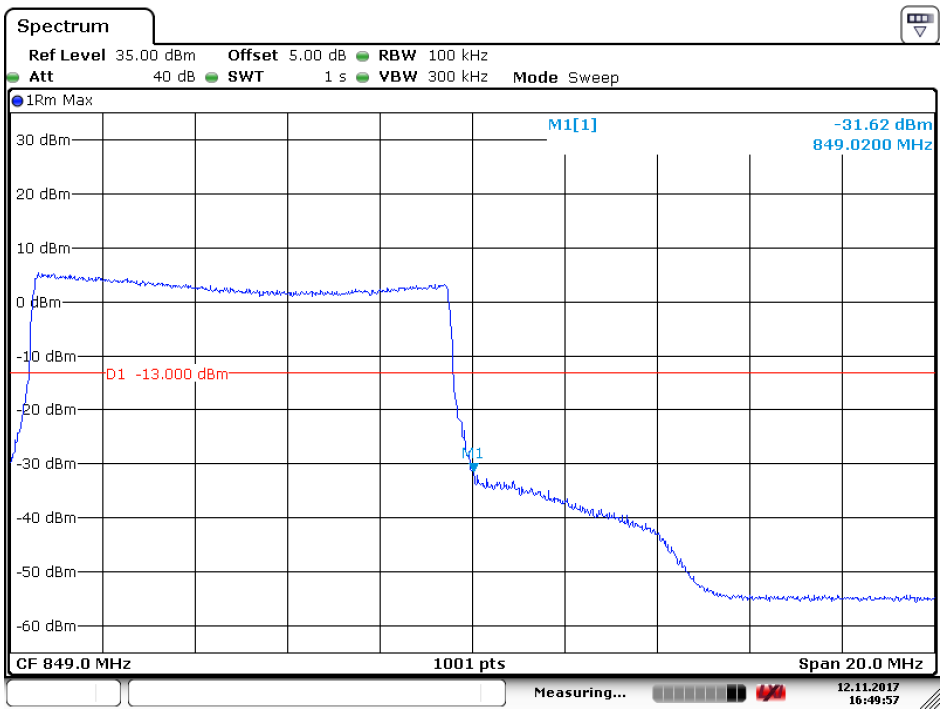
5.1.1.11.2 Test Channel = HCH

5.1.1.11.2.1 Test RB=1RB



Date: 12.NOV.2017 16:49:38

5.1.1.11.2.2 Test RB=50RB

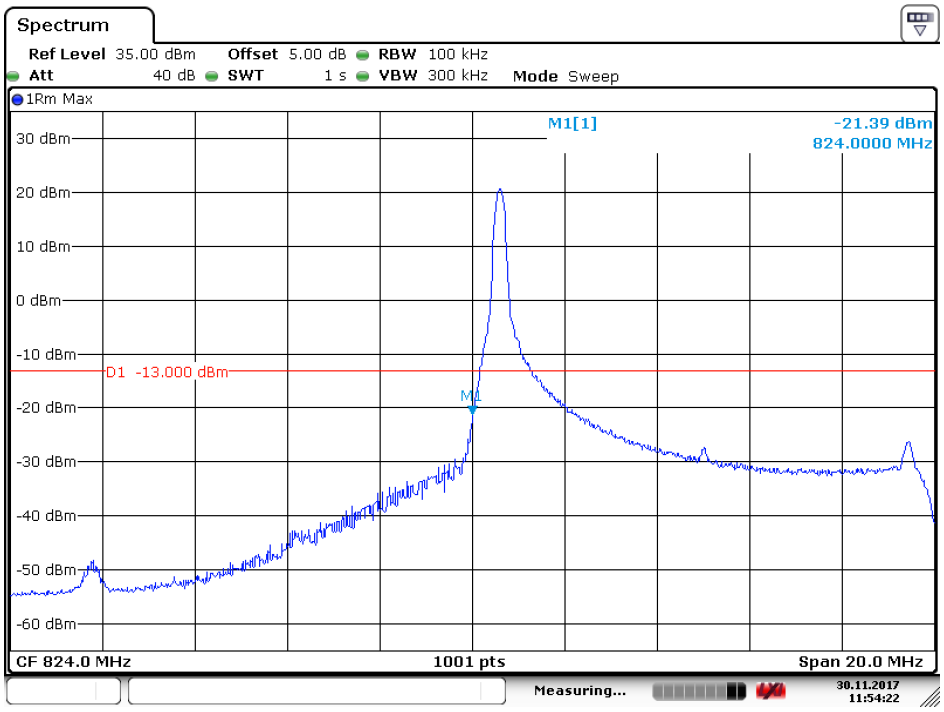


Date: 12.NOV.2017 16:49:57

5.1.1.12 Test Mode = LTE/TM3 10MHz

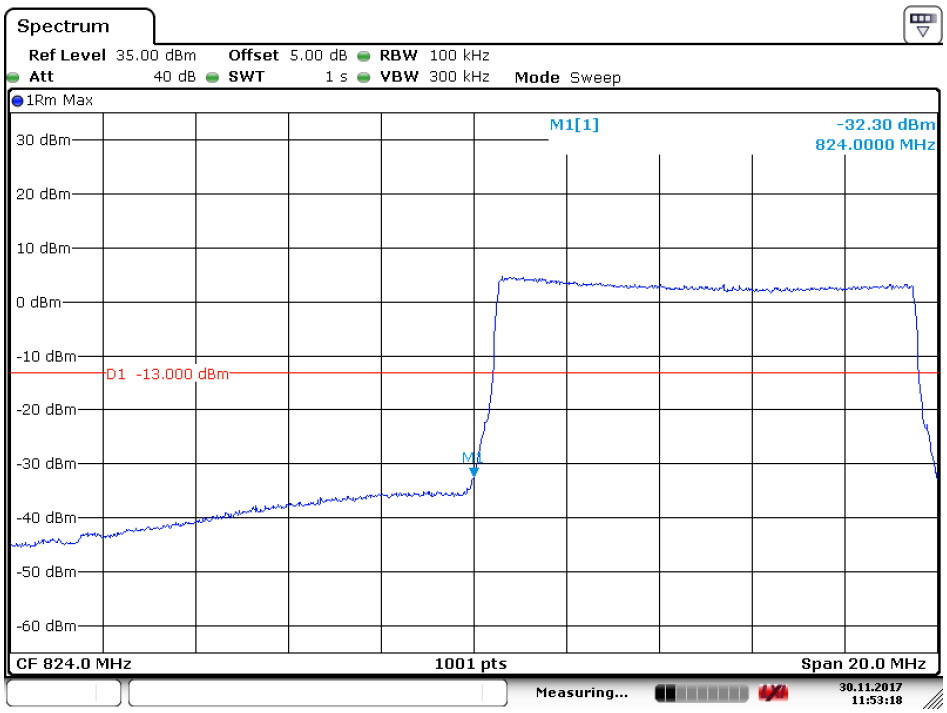
5.1.1.12.1 Test Channel = LCH

5.1.1.12.1.1 Test RB=1RB



Date: 30.NOV.2017 11:54:23

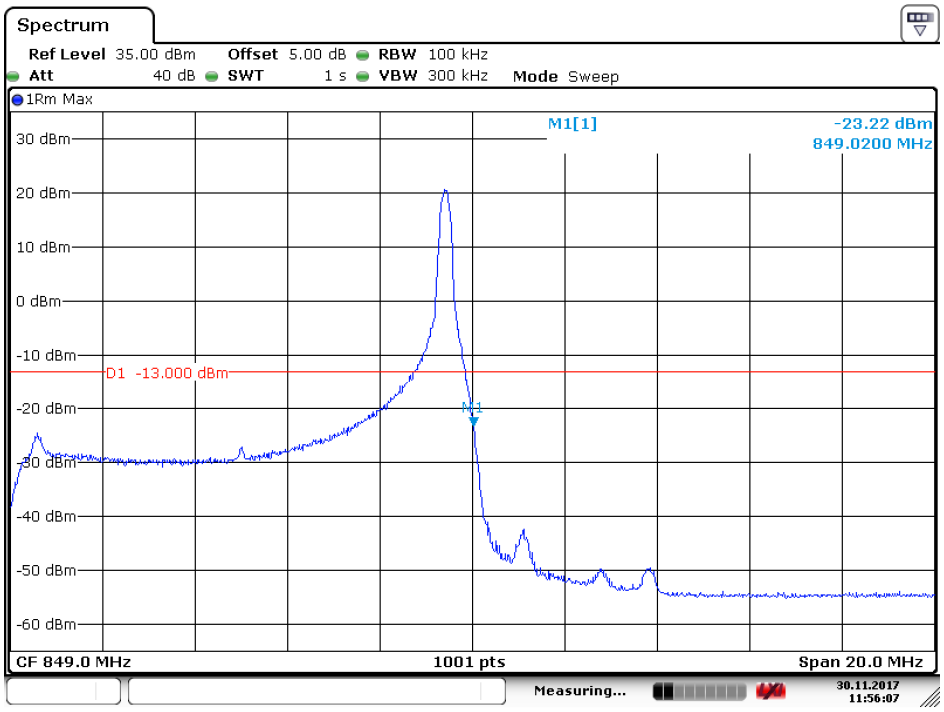
5.1.1.12.1.2 Test RB=50RB



Date: 30.NOV.2017 11:53:18

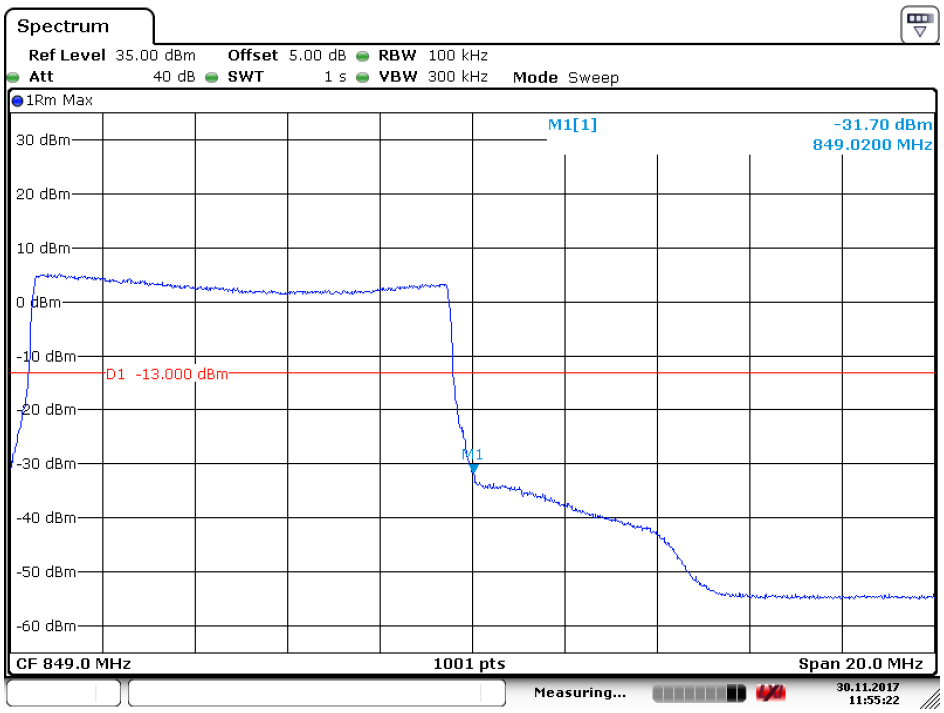
5.1.1.12.1 Test Channel = HCH

5.1.1.12.1.1 Test RB=1RB



Date: 30.NOV.2017 11:56:07

5.1.1.12.1.2 Test RB=50RB



Date: 30.NOV.2017 11:55:22

6 Spurious Emission at Antenna Terminal

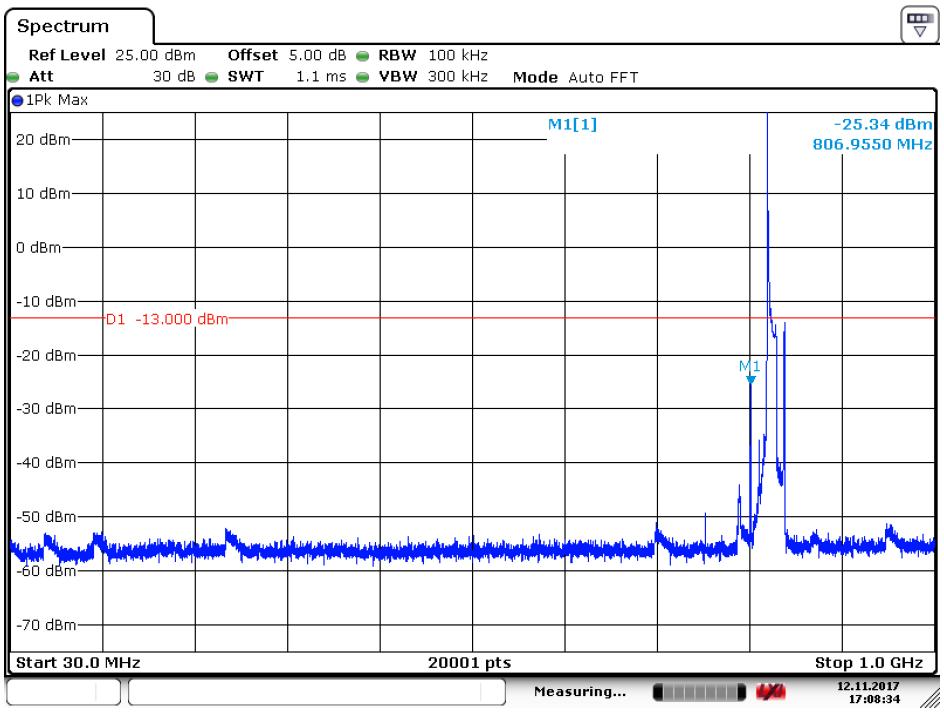
NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

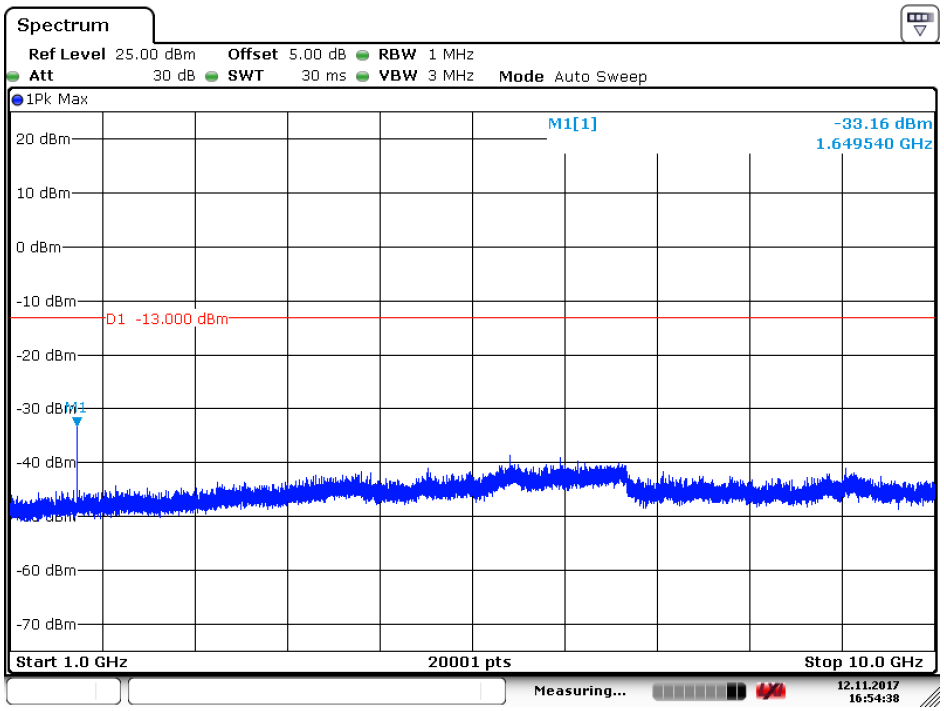
6.1 For LTE

6.1.1.1 Test Mode = LTE / TM1 15MHz RB1#0

6.1.1.1.1 Test Channel = LCH

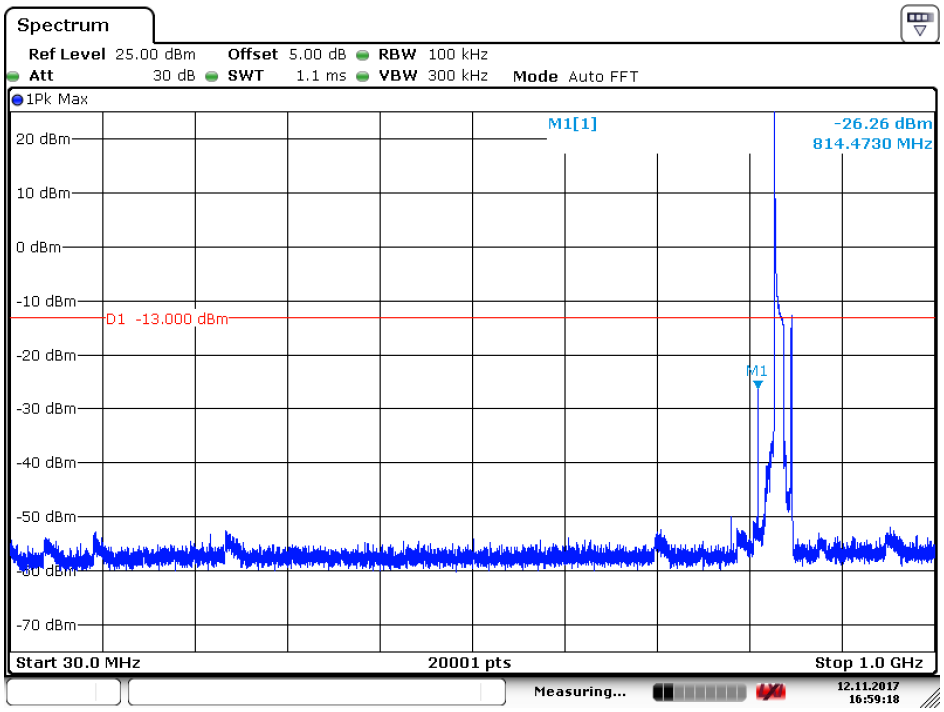


Date: 12.NOV.2017 17:08:34

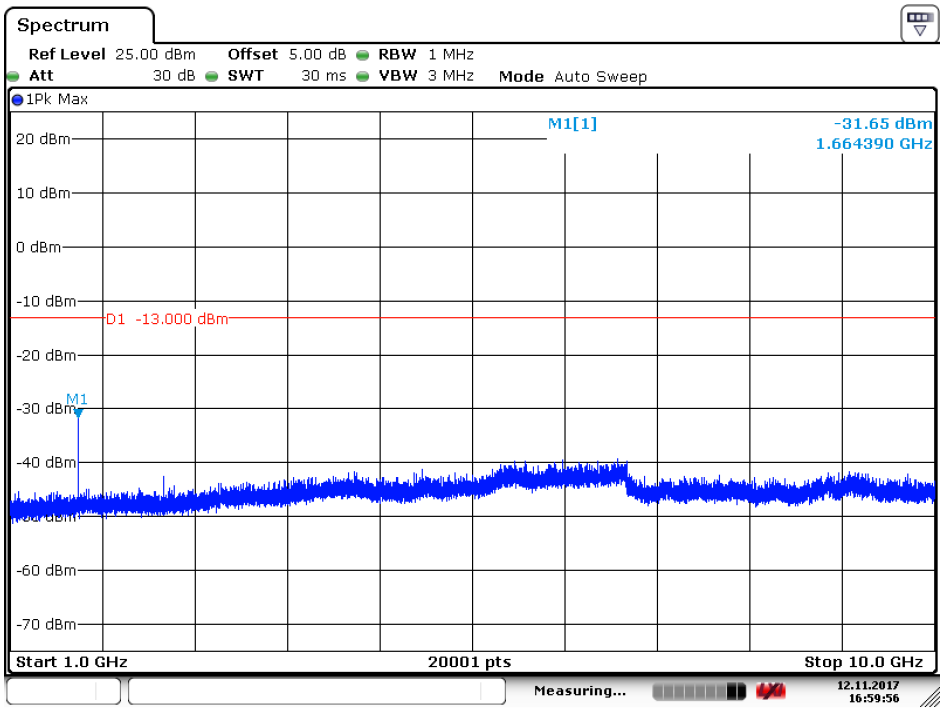


Date: 12.NOV.2017 16:54:38

6.1.1.1.2 Test Channel = MCH

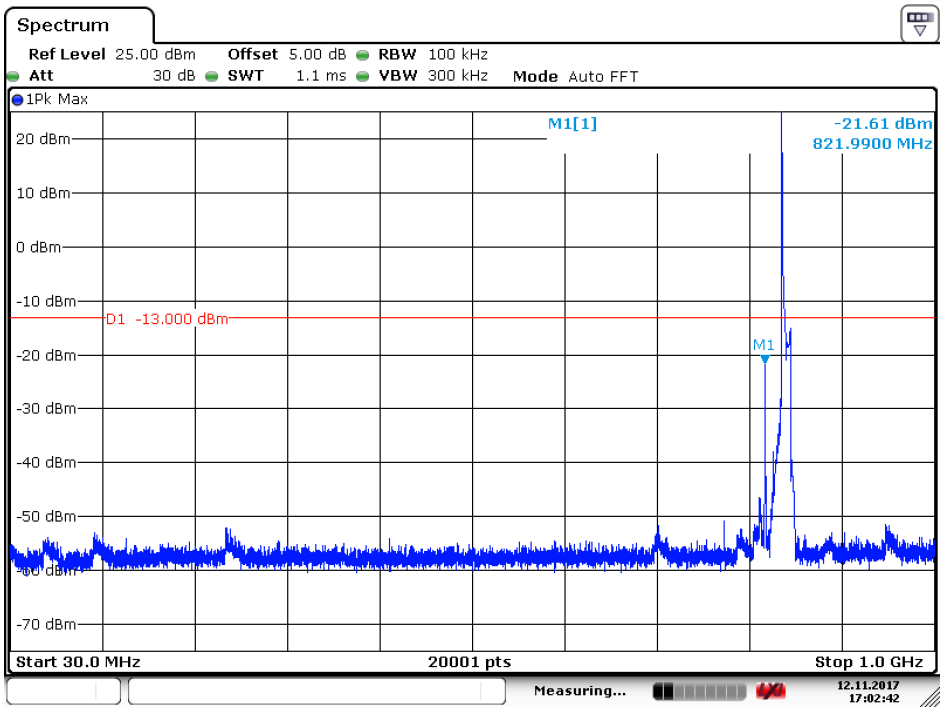


Date: 12.NOV.2017 16:59:18



Date: 12.NOV.2017 16:59:56

6.1.1.1.3 Test Channel = HCH



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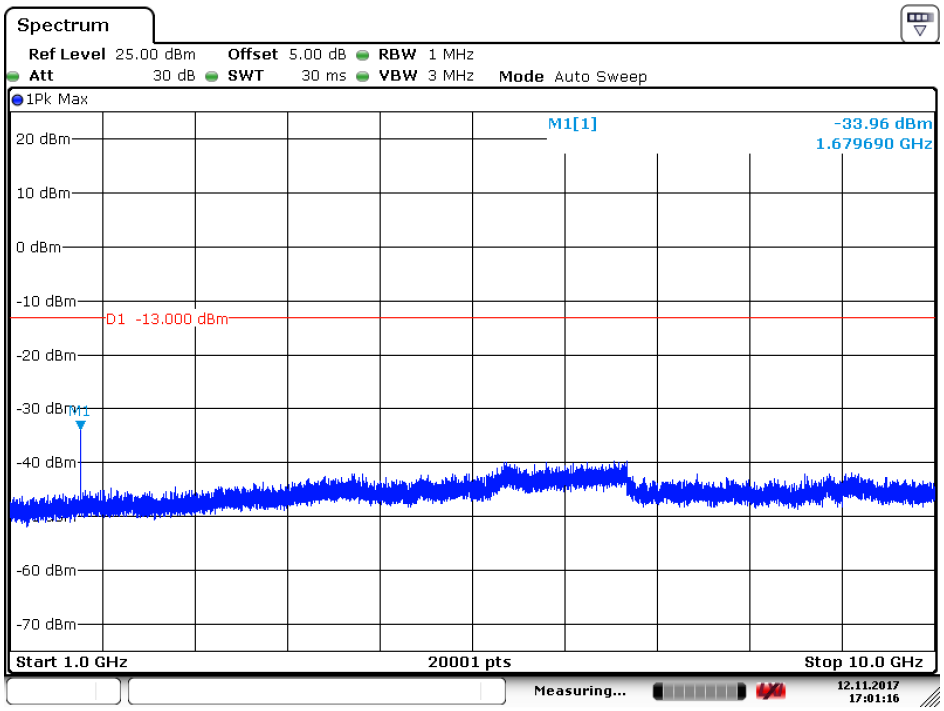

Date: 12.NOV.2017 17:01:16

7 Field Strength of Spurious Radiation

7.1 For LTE

7.1.1 Test Band = LTE band5

7.1.1.1 Test Mode =LTE/TM1 10MHz RB1#0

Diversity antenna

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1210.000	-66.31	-13.00	-53.31	Vertical
2664.000	-57.65	-13.00	-44.65	Vertical
4950.000	-66.76	-13.00	-53.76	Vertical
1221.000	-67.24	-13.00	-54.24	Horizontal
2360.000	-59.24	-13.00	-46.24	Horizontal
6217.500	-65.65	-13.00	-52.65	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1144.000	-67.08	-13.00	-54.08	Vertical
2672.000	-57.50	-13.00	-44.50	Vertical
6120.000	-65.46	-13.00	-52.46	Vertical
1100.000	-66.78	-13.00	-53.78	Horizontal
2776.000	-57.37	-13.00	-44.37	Horizontal
4852.500	-66.82	-13.00	-53.82	Horizontal

7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1276.000	-66.38	-13.00	-53.38	Vertical
2600.000	-58.24	-13.00	-45.24	Vertical
4657.500	-67.45	-13.00	-54.45	Vertical
1210.000	-67.17	-13.00	-54.17	Horizontal
2608.000	-58.66	-13.00	-45.66	Horizontal
4950.000	-66.75	-13.00	-53.75	Horizontal

Main antenna

7.1.1.1.4 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
2336.000	-59.62	-30.00	-29.62	Vertical
4267.500	-67.31	-30.00	-37.31	Vertical
5827.500	-66.60	-30.00	-36.60	Vertical
2232.000	-59.60	-13.00	-46.60	Horizontal
4170.000	-67.69	-13.00	-54.69	Horizontal
6607.500	-65.79	-13.00	-52.79	Horizontal

7.1.1.1.5 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
2712.000	-57.68	-13.00	-44.68	Vertical
4170.000	-67.57	-13.00	-54.57	Vertical
6705.000	-65.60	-13.00	-52.60	Vertical
2200.000	-59.48	-13.00	-46.48	Horizontal
4657.500	-67.42	-13.00	-54.42	Horizontal
6217.500	-65.60	-13.00	-52.60	Horizontal

7.1.1.1.6 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1177.000	-67.11	-13.00	-54.11	Vertical
2600.000	-58.26	-13.00	-45.26	Vertical
4950.000	-66.78	-13.00	-53.78	Vertical
1177.000	-67.71	-13.00	-54.71	Horizontal
2400.000	-59.05	-13.00	-46.05	Horizontal
5242.500	-67.26	-13.00	-54.26	Horizontal

NOTE:

1) All modes are tested,but the data presented above is the worst case.the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

8 Frequency Stability

8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM1 10MHz	LCH	TN	VL	-2.26	-0.00273	PASS
				VN	1.41	0.00170	PASS
				VH	-2.23	-0.00269	PASS
		MCH	TN	VL	-1.59	-0.00190	PASS
				VN	-2.83	-0.00338	PASS
				VH	1.22	0.00146	PASS
		HCH	TN	VL	-5.39	-0.00639	PASS
				VN	-4.95	-0.00586	PASS
				VH	-1.83	-0.00217	PASS
	LTE/TM2 10MHz	LCH	TN	VL	-4.40	-0.00531	PASS
				VN	-3.32	-0.00400	PASS
				VH	-3.13	-0.00378	PASS
		MCH	TN	VL	1.28	0.00153	PASS
				VN	-3.29	-0.00393	PASS
				VH	1.73	0.00207	PASS
		HCH	TN	VL	-2.31	-0.00274	PASS
				VN	-6.18	-0.00732	PASS
				VH	5.12	0.00607	PASS
	LTE/TM3 10MHz	LCH	TN	VL	-1.54	-0.00186	PASS
				VN	2.76	0.00333	PASS
				VH	4.93	0.00595	PASS
		MCH	TN	VL	-3.43	-0.00410	PASS
				VN	2.65	0.00317	PASS
				VH	-0.23	-0.00027	PASS
		HCH	TN	VL	1.87	0.00222	PASS
				VN	4.86	0.00576	PASS
				VH	-3.34	-0.00396	PASS

8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM1 10MHz	LCH	VN	-30	-4.38	-0.00528	PASS
				-20	-2.32	-0.00280	PASS
				-10	-2.47	-0.00298	PASS
				0	1.27	0.00153	PASS
				10	1.20	0.00145	PASS
				20	0.55	0.00066	PASS
				30	2.68	0.00323	PASS
				40	-2.10	-0.00253	PASS
				50	-4.02	-0.00485	PASS
		MCH	VN	-30	-5.04	-0.00603	PASS
				-20	-5.10	-0.00610	PASS
				-10	-3.30	-0.00395	PASS
				0	-1.25	-0.00149	PASS
				10	-2.07	-0.00247	PASS
				20	-1.89	-0.00226	PASS
				30	-3.99	-0.00477	PASS
				40	-4.83	-0.00577	PASS
				50	-5.92	-0.00708	PASS
		HCH	VN	-30	-6.06	-0.00718	PASS
				-20	-5.24	-0.00621	PASS
				-10	3.69	0.00437	PASS
				0	-2.43	-0.00288	PASS
				10	2.24	0.00265	PASS
				20	-1.39	-0.00165	PASS
				30	-2.42	-0.00287	PASS
				40	-4.39	-0.00520	PASS
				50	-3.84	-0.00455	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM2 10MHz	LCH	VN	-30	-3.57	-0.00431	PASS
				-20	-2.43	-0.00293	PASS
				-10	1.22	0.00147	PASS
				0	2.41	0.00291	PASS
				10	1.76	0.00212	PASS
				20	-0.43	-0.00052	PASS
				30	-3.03	-0.00366	PASS
				40	2.27	0.00274	PASS
				50	-4.85	-0.00585	PASS
		MCH	VN	-30	-3.32	-0.00397	PASS
				-20	-2.66	-0.00318	PASS
				-10	-2.14	-0.00256	PASS
				0	-1.83	-0.00219	PASS
				10	-0.72	-0.00086	PASS
				20	1.33	0.00159	PASS
				30	-2.24	-0.00268	PASS
				40	-6.58	-0.00787	PASS
				50	-5.49	-0.00656	PASS
		HCH	VN	-30	-3.04	-0.00360	PASS
				-20	-4.69	-0.00556	PASS
				-10	2.49	0.00295	PASS
				0	-3.46	-0.00410	PASS
				10	2.46	0.00291	PASS
				20	-1.93	-0.00229	PASS
				30	-3.32	-0.00393	PASS
				40	-5.70	-0.00675	PASS
				50	-4.32	-0.00512	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band5	LTE/TM3 10MHz	LCH	VN	-30	-5.38	-0.00649	PASS
				-20	-4.32	-0.00521	PASS
				-10	-2.47	-0.00298	PASS
				0	1.27	0.00153	PASS
				10	3.11	0.00375	PASS
				20	1.89	0.00228	PASS
				30	2.67	0.00322	PASS
				40	-2.10	-0.00253	PASS
				50	-4.02	-0.00485	PASS
		MCH	VN	-30	-5.04	-0.00603	PASS
				-20	-3.99	-0.00477	PASS
				-10	-3.30	-0.00395	PASS
				0	-1.25	-0.00149	PASS
				10	-2.81	-0.00336	PASS
				20	-2.82	-0.00337	PASS
				30	-3.99	-0.00477	PASS
				40	-4.55	-0.00544	PASS
				50	-5.92	-0.00708	PASS
		HCH	VN	-30	-1.90	-0.00225	PASS
				-20	-5.24	-0.00621	PASS
				-10	3.69	0.00437	PASS
				0	-2.43	-0.00288	PASS
				10	6.43	0.00762	PASS
				20	-4.39	-0.00520	PASS
				30	-2.46	-0.00291	PASS
				40	-4.46	-0.00528	PASS
				50	-2.87	-0.00340	PASS

The End